

**AMERICAN BEE JOURNAL**



Volume 98

**1958**

Number 3

**MARCH**

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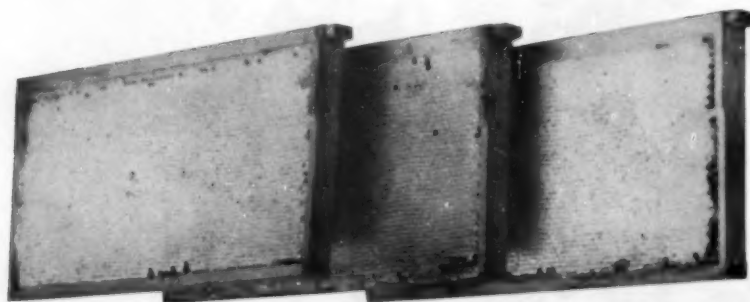


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# - Our Cover Picture -



## WHO IS IT? - A Contest, Editor Pat Diehnelt

### February "Mystery Guest"

Dr. Cecil A. Jamieson  
Chief, Apicultural Division

Experimental Farms Service, Ottawa, Ontario

Dr. Jamieson was born in Ontario, Oct. 7, 1904. He is married and has three daughters. BSA degree at the University of Toronto in 1937. Attended McGill University in 1941 and 1942. Received his Ph.D. from Cornell University in 1951. He taught at the Ontario Agricultural College in 1937. C.E.F., Ottawa, research, 1938. Chief of Division since 1950. Special fields: Taxonomy of pollen grains; crystallization of honey; bee diseases and control, particularly Nosema. There were ten answers. This was not too easy. Answers from eight states and provinces, majority from the states. Winners will be given in April.

## WINNERS FOR THE JANUARY COVER CONTEST

Mrs. Harriett M. Grace, American Honey Institute

### NUMBER ONE

Aylmer J. Jones, Malden, Mass.—

The January Guest is Mrs. Harriett M. Grace, Director of American Honey Institute, Madison, Wisconsin. Since 1938 she has led the Institute in its quest for more and better ways to sell honey to our large food producers; and better ways to help the small producers too. Honey promotion is her watchword. She is a graduate of the University of Wisconsin, postgraduate at Cambridge and Oxford in England. She had ambitions to become an actress. Instead she trained for teaching, well revealed in her honey promotional material which teaches the public the values of nature's finest, sweetest, most healthful food. Her work in foods at the University of Wisconsin well fitted her for this task. It would be hard to find anyone in the honey industry belonging to more Home Economics Societies, Scientific Organizations and Scholarly Societies. Any new outlet for honey does not remain a secret from our genial Harriett for long. She also writes for many magazines. She answers mail promptly and no request for selling aids is ignored. The American Bee Journal does well to salute the real Honey Queen of America, Mrs. Harriett M. Grace.

### NUMBER TWO

Brother M. Gerard, Abbey of our Lady of New Melleray, Dubuque,

Iowa—This very business-like woman, with the genial smile, is Harriett M. Grace, Director of American Honey Institute. She is unknown only to those who have not had the happy pleasure of meeting her. This First Lady of the Honey Industry wanted to be an actress, so, after graduating from the University of Wisconsin, she took post graduate work in drama at Cambridge and Oxford. But, being the practical woman that she is, she married and devoted her life to her home as well as taking active part in civic work in Madison. Over twenty years ago, this coming July, she was asked to re-organize the American Honey Institute. She accepted, and, as executive director, she coordinated and publicized the work of the INSTITUTE. At the beginning all she knew about bees was what Maeterlinck had to say in his book "Life of the Bee." But she also knew she could learn, and learn she did. She went to beekeepers' meetings wherever she could find them. Her reading was prodigious and her research assiduous. Under her leadership the Institute has built a reserve fund. It has beautiful and spacious offices and it is giving real service to the industry. She has won an American Trade Association Executive's Award for her work. Nor is she any stranger to our friends above the border. In the early fifties, the Canadian Beekeepers' Council secured her services for their honey promotion.

### NUMBER THREE

J. Alan Smith, Davenport, Florida—I have attended most of the annual meetings in the Midwest, the East, and the deep South. Mrs. Grace was at all of them. She attended all possible sessions and seemed intensely interested in the discussions. At every chance she effectively expounded the wonderful and outstanding values of honey. Year after year she has amassed an almost unbelievable storehouse of facts and figures about honey. The dissemination of these to the four winds is a story which, if known, would put her in the lead for nomination of "woman of the year."

As a result of her efforts, honey, for the first time, was on a coast to coast broadcast. Thousands upon thousands of pamphlets, recipes, news items, lectures, and interviews with executives of big food organizations have helped honey more than any sales efforts heretofore attempted. Her effort makes it possible to place honey very favorably beside any other food. I nominate her "The HONEY of the Year" and her picture appropriately "graces" the January cover.

### NUMBER FOUR

Philip Bishop, Sackville, New Brunswick—The Honey Queen of two nations, the United States and Canada. She is truly a queen because of her dignity and charm and because of her devotion to the welfare of her subjects, the beekeepers. In Canada we are much aware of the importance of her service and we hope we show some measure of appreciation in the modest grant contributed by the Council for the continuation of her work. (Shortened)

.... There we stop. Room has run out, so our apologies to the remaining three winners: Number 5, Jewel T. Newman, Knoxville, Tenn.; number 6, Robert H. Rusher, Hyannis, Mass.; number 7, Walter Rheinheimer, Baltimore, Md. Congratulations also to Mrs. Raymond Wood, Peace River, Alberta; Edwin Englert, Rosemount, Minn.; and Mrs. Stan Jackson, Locust Hill, Ontario.

## Mystery Guest for March

Who is this grand lady? She is a world figure and one of the most dedicated workers in our industry. Send your answers anytime this month to ABJ Cover Contest. Confine your answer to a double-spaced typewritten page (about three pen written note pages). Best story, \$5.00 and three years of ABJ; second, two years; third, one year. Next four, selected books. Play again or play new. Happy landing.

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## The American Bee Journal

— Hamilton, Illinois

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Associate Editors—M. G. Dadant,  
Roy A. Grout

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at expiration date printed on wrapper.  
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says:

The SIOUX HONEY ASSOCIATION, the fastest growing honey industry in the United States, has also led the way, the past seven years, in the support of the American Beekeeping Federation and The American Honey Institute. As an Association we contributed \$45,000.00, yet we handle only 1/10th of the nation's honey. In addition our members contribute many thousands of dollars individually. There is much honey that is not supporting the industry. . . . is it yours?

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Rogers, Texas - Waycross, Ga. - Tacoma, Wash.  
Lima, Ohio - Anaheim, Calif.

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Beekeepers Supplies

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Eliminates all clutch slipping.  
Extracts faster and easier with  
less comb breakage.

Complete information and prices—  
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By the calendar - March - SO WHAT! - Think—

**Have you placed your order for Package Bees?**

Shipments start April 1st. At least one half the  
April dates are now filled (Feb. 10th.). Will you be  
left out?

Because of our desire and popular demand we  
spare no expense in production of bees and queens. We  
feed Fumidil B. Our continued selection of stock for  
production and other desired qualities is paying others  
in greater yields.

with reg. queen	2 lb. pkg.	3 lb. pkg.
1 - 25	\$4.75 each	\$5.75 each
26 - 99	4.50 each	5.50 each
100 - up	4.25	5.25 each

For Island Hybrid queens add 30c each

"THEY PRODUCE"

## ROSSMAN APIARIES

P.O. Box 133

Moultrie, Ga.

# STOVER'S

THE BEST PLACE TO GET THOSE PACKAGE BEES AND QUEENS THIS SPRING.

We produce only quality bees and queens and stand back of every sale we make — ask any one who has dealt with us.

SOME DATES ALREADY FILLED SO BETTER RUSH YOUR ORDER IN AT ONCE.

We will feed Fumidil to our queen yards this year, also fumigate our combs with Glacial Acetic acid.

## PRICES

ITALIANS		or	CAUCASIANS		
Lots of	Queens	2 lb. & Q.	3 lb. & Q.	4 lb. & Q.	5 lb. & Q.
1 - 24	\$1.50	\$4.25	\$5.35	\$6.45	\$7.55
25 - 99	1.40	4.00	5.05	6.10	7.15
100 - 499	1.30	3.75	4.75	5.75	6.75

TESTED QUEENS — \$2.50 each

Queens Postpaid - Airmailed and/or Clipped—No Extra Cost  
10c each extra for marking — Packages F.O.B. Shipping Point

## THE STOVER APIARIES

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## BEES QUEENS

KELLEY'S Three-banded Italian bees and queens direct from our own Bee farm. Shipments start April 1st — express or parcel post shipment. Thousands of extra queens.



	Queens	2 lb. w/q	3 lb. w/q
1 - 24	\$1.25	\$4.25	\$5.25
24 - 99	1.20	4.00	5.00
100 and up	1.15	3.75	4.75

**WALTER T. KELLEY CO., Clarkson, Ky.**

## Wilbanks Package Bees and Queens "Italians"



Now is the time to place your order for package bees and queens. All indications are that the demand will be heavy and we urge you to place your order early.

We have spent years developing and improving our present strain of bees. Breeding stock is tested and proven in our own honey producing apiaries. You will find our bees pleasing in appearance, easy to handle and tops in production.

Shipping season starts about April 1st. Shipments by express, parcel post or your truck. We guarantee live delivery, a health certificate with each shipment and service on which you can depend.

### — PRICES —

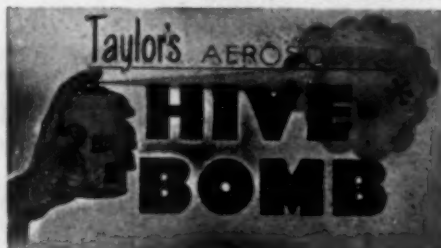
	1 - 9	10 - 49	50 - up
2 lb. pkg. with young laying queen	\$4.25	\$4.00	\$3.75
3 lb. pkg. with young laying queen	5.35	5.10	4.85
4 lb. pkg. with young laying queen	6.45	6.10	5.85
Extra Queens	1.40	1.30	1.20

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**The Wilbanks Apiaries**

**Claxton, Georgia**

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### The Push-Button Bee Smoker

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## AIRPLANE-Quality — SUBMARINE-Prices for 1958

**WE HAVE TO OFFER YOU—YOUNG HIGHEST PRIME QUALITY PACKAGE BEES AND QUEENS**  
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THE IMPROVED STRAIN of three-banded Italians, backed by over 35 years' careful selecting, breeding, and shipping to all points in U. S. A. and Canada. Each year our breeding and mating stock is carefully picked and tested out for the coming season from hundreds of best by test colonies, which gives you benefit of each season's improvement when buying from us.

We are booking orders for the season of 1958, plan your requirements for this season and place your orders early. We are booking each day from now on to fill your orders promptly on the day you want them with the very best of QUALITY BY TEST. Let us know your 1958 requirements. We guarantee to please you in every respect or money cheerfully refunded. Shipment guaranteed on date you desire. We can take care of your rush orders from March 15th on. No disease. Health certificate with each shipment.

Orders booked 25% down payment to confirm, balance due 10 days before shipment.

	Queens	2-Lb. Pkg. with Queen	3-Lb. Pkg. with Queen
1 - 24	\$1.25	\$4.00	\$5.00
25 - 99	1.15	3.75	4.75
100 up	1.00	3.50	4.50

Royal Jelly A Specialty — Aides human health in many ways — write for special information and prices.  
Reference: Bank of Cottonwood, Cottonwood, Ala.

**H. A. FARMER APIARIES : Cottonwood, Ala.**  
TELEGRAPH AND EXPRESS OFFICE — DOTHAN, ALA.



# The Commercial Beekeeper

Way down South where yards are often on platforms, hives close together and kept battened up, ready to move quick, if necessary. Some big flows are along water courses. But, when the flow is over, bees must be moved, either for another flow; or for pollen, too scarce in flow location.

## Normal Versus Boosted Packages<sup>1</sup>

by Mykola H. Haydak

Department of Entomology and Economic Zoology  
Institute of Agriculture,  
St. Paul 1, Minnesota

Over one million pounds of bees are shipped every year, mostly in 2 and 3 pound packages, to many points in the United States, Canada and some other parts of the world. From these packages, installed in hives, many new colonies start their development in the spring. The disadvantage of these new colonies in comparison with those overwintered in any given locality lies in the fact that the former have to start, so to speak, from scratch, while the latter have already a sound base in the new young bees and brood.

The package bees have to do all the work inside and outside the hive for at least 3 weeks before a new generation of bees appears to fill a vacancy created by the death of a considerable number of the original package bees.

According to Merrill's (1935) study the most critical period in the life of a hived package exists between the second and the third week after brood rearing begins. At this time each colony has more brood than bees. To remedy this situation Merrill, quoting Morley Pettit, advised giving each package colony a boost by adding one or two pounds of newly arrived package bees, thus strengthening the colony and replacing the losses in bees occurring during the period of the initial brood rearing.

<sup>1</sup>Paper No. 962 Miscellaneous Journal Series, Minnesota Agricultural Experiment Station, St. Paul 1, Minnesota



The value of such "boosting" of packages in the spring is questioned. Some (Teasley, 1948) recommended it, others (Anonymous, 1951) consider "boosting" as useless. In order to find out the answer to this question the following experiment was performed.

In the years 1951 up to 1957, inclusive, on about April 20th, 18 to 38 three pound packages were installed on drawn combs by the direct release method. About 14 to 18 days later the brood in the hived packages was counted and those with an equal number of frames of brood were paired. One of the pairs was left unchanged, the other received "a boost" using a 2 pound package in this manner: an open queenless package, with bees well fed and sprinkled with sugar solution, was

Table 1. Comparison between normal and boosted packages

Location of the apiary	No. of Packages	Normal					Swarm cells built per cent	No. of Packages	Boosted					Swarm cells built per cent
		Brood count							Brood count					
		frames of brood							frames of brood					
		1	II	III	Lbs. Production				1	II	III	Lbs. Production		
Yard I	9	2.5	5.7		158	44.4	10	2.5	5.8	7.9	142	50.0		
Yard II	28	2.5	5.4	7.5	75	57.1	30	2.5	5.4	7.1	88	69.0		
Yard III	31	2.2	4.7	6.8	72	29.0	29	2.0	7.4	7.3	77	37.9		
Average	68	2.4	5.0	7.2	86	42.6	69	2.2	6.3	7.2	91	53.0		



Hiving a two pound package. Sometimes it is hard to conceive that this relatively small lot of bees will later account for a big crop. Boosting will make a gain.

placed over the inner cover with the bee escape hole open. Afterwards the brood in all package colonies was counted at 4 week intervals. Colonies which became queenless, superseded, swarmed or had a faulty queen were not counted in the experiment. Out of a total of 202 packages installed, only 137 were used in the computation of the results. The results of the experiment are presented in Table 1.

From the table it is evident that there was a slightly larger brood count in the boosted packages than in the normal ones. The swarming tendency was somewhat greater (by about 10%) in the boosted packages. There was very little difference in the average honey production between the boosted colonies and those in the control group.

#### Summary and conclusions

About two weeks after installation, package colonies were paired, according to the amount of brood they

had, into two groups. One of these received two pound booster queenless packages, the other remained as control. One hundred thirty-seven packages, over the period of seven years, were used in the experiment. There was a slight difference in either the brood count, the swarming tendency or the average honey production between the group.

It appears that the addition of booster packages to the colonies established from packages in the spring does not increase their honey production in comparison with the nonboosted group.

#### Literature

- Anonymous. 1951. Amer. Bee Journal 91(6): 253  
Merrill, J. H. 1935 "What Packages May Do." *Gleanings in Bee Cult.* 63:80-84  
Teasley, C. M. 1947 "Packages Need a Start—Then a Boost." *Gleanings in Bee Culture* 76: 214-215, 251.

This incoming pollen during the last three weeks of August is thus saved in our jumbo bodies to be given as a second body to our package colonies during the first half of May. Combs of pollen are a big asset whereas combs of dead brood are a liability.

Beekeepers in areas where their flow shuts off at an earlier date can cage their queens that much earlier. We only need our queens on the job four months of the year and strong colonies can be built up in this time. I have found wintering in our area profitable because considerable pollen and stores were consumed during the fall and winter causing colonies to run short in early spring, hence requiring supplement feeding.

Packages should forge ahead if started on good dark combs of honey and pollen. Colony heat can also be conserved by providing good wind-breaks. The addition of a second body with plenty of pollen in May will keep up brood rearing regardless of the weather. We prefer the adding of the second body underneath, as colony heat is conserved up above where most of brood now is. Downward expansion gives us a better brood-nest condition for our swarm control switch in June.

Wisconsin.

#### Seed Research

U.S.D.A. advisory group of the Seed Research Marketing Advisory Committee is recommending special emphasis on effects of insecticides on insect predators and beneficial pollinators. It would also recommend special study of improved seed production through use of honey bees and wild bees.

Further work is also stressed on the use of honey for pharmaceutical and industrial purposes, and the demonstration of the true value of honey in such use.

Clarence D. Benson represents beekeepers on the above committee. Copies of the committee report may be obtained by writing Marshall J. Goss, Agri. Research Service, U.S. D.A. Washington 25, D.C.

#### Package Bees in Michigan

A folded mimeograph publication, with yellow paper cover, by E. C. Martin, Michigan State University, East Lansing, Mich. It is dated for January. Covers ordering packages, size of packages, arrival, care, installation, introducing queenless bees, and superseding. Copies can be had by addressing above.



## Pollen For Rapid Package Build-Up

by Myron R. Frisque

Obtaining and having a bountiful supply of pollen for rapid build-up of package colonies in spring is highly important. We cannot depend on the weather in April and May so we must be ready for the worst. Quite often, even during dandelion and fruit bloom, bees are able to gather very little pollen so an abundant supply must be available especially during May when heavy brood rearing is necessary.

We have been able to obtain this pollen in the combs by caging our queens three weeks prior to the end of our August flow from alfalfa.

# WHAT DO YOU DO FOR FUN

by John W. Holzberlein

Many of us can remember when the 60-hour week was standard. Those of us who cannot remember that far back know that the 40-hour week will soon be on its way out because with modern machinery and the new efficiency systems in use there just isn't going to be enough work to keep everyone busy that long. Nor with the present rate of pay is it necessary for people to work so long in order to be able to make a living. Never before have there been so many persons with leisure time and money to spend.

How does all this affect beekeepers? If you are keeping up with the times you are finding yourself with more time to spare from your work. Modern extracting equipment makes it possible to handle the crop now in half the time it once took. Modern wood preservatives make it unnecessary to replace the hives so often. Newly developed machinery for yard work and new management systems have already made it possible for one man to accomplish what two used to do in the bee yard. It is true that many beekeepers have not used these modern improvements to shorten their day's work, instead they just run twice as many bees to produce twice as much honey.

For many of us beekeeping is more than an occupation, it is a complete way of life. It is a means of livelihood, our outdoor exercise, and our recreation all rolled into one. And lucky is the man who finds happiness in such an all sufficient occupation. But unless we operate a strictly one-man outfit we are going to find ourselves in a direct competition with the 40-hour program all the same. It is true that we can manage our time so as to have more winter leisure than almost any business or even any branch of agriculture. But are we putting this across to our hired help who may need a year-round job, or to our youngsters in the family who often help with honey production? Too often youth is not farsighted. They can see only that they work like the devil as soon as school is out, and keep on working like that till school starts again in the fall. Do you suppose that has anything to do with why beekeepers' children are often such good scholars? Or why they leave the



field of beekeeping for other fields which are often less remunerative? Could be.

No matter how we regard the above comments, we are all entitled to time for relaxation and diversion. Even though beekeeping is our life, to me it seems important that we get away from it occasionally; for a few hours every day, for a day or so each week, and for a month or so each year. And this is why I ask, "What do you do for fun?"

The average beekeeper is a natural outdoorsman, and it is only natural to find him not only interested but reasonably good at outdoor sports, especially those sports which are at their peak in fall and winter. Most of the beekeepers I know are hunters, and good hunters. Their work takes them around over the country. Their work also demands that they be keen observers. Being keen observers of what goes on in the beehive also gives them the ability to observe where the hen pheasant has her nest, where the ducks are feeding, or where the deer cross the road. Being a close observer is perhaps the first step to being a good hunter. And being "good" at any sport adds to its enjoyment.

Fishing is another sport that beekeepers seem to "take to." It offers the diversion so necessary to a release from tension, a wholesome,

satisfying release. It may not be such a calamity that come Sunday morning, quite likely as many beekeepers may be found on a good trout stream as in church.

Another outdoor diversion well suited to the beekeeper's make-up is photography. This is an exacting science if skill is to be displayed and while it takes us completely away from the problems of the bee yard, yet it uses to advantage some of the tendency toward exactness that a successful beekeeper is sure to develop. Photography not only supplies pleasure for the moment, but if successful, provides a permanent record of something that may be enjoyed by many people, over and over again.

It may be going too far to say that reading is entering the realm of the lost arts. But while there are those of us who can still do it we should take time to enjoy it. While reading leaves an opportunity for the body to be completely relaxed it refreshes the mind in another manner. Reading can take us worlds away from the problems at hand, or it can find for us the solution to these problems. Whether we read for diversion and pleasure alone, or for enlightenment and self improvement, it is a fitting way to occupy the hours at the end of the beekeeper's busy day.

No beekeeper will find the time wasted that he uses to dress up and take the family out to dinner. Any extra cost involved is easily offset by the resulting improvements in daily relations.

Whatever you do at beekeeping do it the best you can, but remember that you will often do it better if you will let up now and then and just take time out for fun.

## Sunflower Honey in the San Luis Valley

John Haefeli reports that much of the San Luis Valley honey came from sunflowers last year. It is golden colored. This is in sharp contrast to the water-white honey normally produced in the Valley from legumes. The Valley average, due to cool, damp weather, was probably less than 60 lbs.

Colorado B-Notes  
September



Lyle in one of his MD yards in a good flow, all bulk comb.

## Management For Bulk Comb Production

by Newman I. Lyle

There are many lovers of fine honey who like to chew their honey. To them liquid honey is not entirely satisfactory. The beekeeper can cater to this preference by producing bulk comb honey with a minimum of labor and expense.

The advantages of producing bulk comb are: first, shallow extracting equipment is used; second, management is similar to the production of extracted honey; and third, bees will work and store honey on a slower flow than in section supers. However, there must be prospects of a good flow before deciding to produce bulk comb honey.

Colonies at the beginning of the main honeyflow must be strong and have a proper balance of bees of different ages. There are recognized practices for building up colony strength by a determined date as so ably written by Mr. Schaefer in an earlier issue. For real crowding of bees in supers, to get the maximum finished honey per super and per colony, Dr. C. C. Miller's direction, "To have a young queen of the bees own raising in the hive," is still the



Nice truck load of supers of bulk comb ready for pecking plant.

best advice I know. When the season or other work does not allow time for this, a young shipped-in queen introduced early and laying well at the time of the main honeyflow, is the next best bet. For method of introduction I refer you to my article in the May 1952 Journal.

For the brood chamber we prefer a one and one-half story Modified Dadant hive or two-story ten-frame hive with a minimum of drone comb. The brood chamber units should be reversed early in the spring and again just before the honeyflow. This manipulation will tend to keep the brood nest free of honey. A prolific queen needs room to produce the large worker force necessary for maximum production. Colonies with small brood nests or old failing queens will not be good producers of bulk honey.

At the time of reversing the brood nest just before the flow, some colonies will be found to have five to seven frames of brood in both top and bottom bodies. Colonies with this tendency to "chimney" should have the youngest brood worked

down into the lower hive body and the old sealed brood placed in the top body. The bees will tend to work the entire super better if this is done.

Colonies with old queens, even though they are still vigorous, are not the best for comb production. Such colonies are liable to swarm or when the old queen slacks in laying, pollen will be stored in the supers because there is not enough brood being reared to consume the pollen as it is harvested.

To control swarming the first need is a young queen; second, plenty of room for the brood rearing in a clear brood nest; third, adequate ventilation; fourth, supering in time; and last, to remind you again, a young queen.

The supers should be prepared with foundation a short time before they are needed. We like to prepare the supers the same day they are to be used. The thin surplus foundation then has less chance to become wavy or break. However, if there is a warm, clean, even temperatured but not too hot place to store the supers, they may be prepared some time in advance. The foundation must be firmly attached the entire length of the top bar, so that it is impossible for it to loosen. The straighter the sheets of foundation, the straighter the resulting combs of honey, provided the hives are carefully leveled from side to side and front to back.

When the bees start to whiten the combs along the top bars of the brood frames, at the beginning of the main honeyflow, the first bulk comb super is placed on the strong colonies where the brood extends from one side of the hive to the other. If the bees do start working in the center only of the super, one-half of the frames should be turned around as a unit on one side and the other half on the other side. This places the drawn comb to the outside of the super. This manipulation aids in a more even finish. When work has nicely started in the first super, the second super is placed on top; when work has started in it and there is a good prospect for a continued flow, the first and second supers are reversed and a third is added on top. It is important that supering be stopped early enough to force the bees to finish the supers. It is always well to keep in mind the fact that, "Most beekeepers super too little early and too

much late." Some colonies are naturally better comb builders than others. These colonies should be the ones operated for bulk comb production. Those which are reluctant to draw foundation should be given drawn combs and operated for extracted honey.

When the finished supers are to be removed from the hives, the joints should be broken, preferably the day before, so the burr combs can be cleaned and dried by the bees. Honey

from the broken burrs running down over the combs is not only messy and unsanitary but is excellent "seed" to start granulation when the honey is packed. After the peak of the honeyflow, partially filled supers should be stripped off the slow colonies and given to those that are good finishers. The slow colonies should be given drawn combs for extracted honey production.

Iowa

—(Reprinted from June, 1952)

#### WEATHER in Indiana

The weather records at the close of the year showed 1957 to be the wettest year within the memory of even our oldest beekeepers. The excess precipitation above normal was greater than the entire annual rainfall of a number of our western states. Forgetting the flood damages during the past year and looking forward to the coming season, the picture is bright for the beekeepers of Indiana. Honey plants over most of the state went into winter in excellent condition and the excess moisture stored in the soil indicates a good honey crop this coming spring. Of course, we must consider the possibility of winter injury to plants through heavy freezing but at present the future is bright. (Monthly News Letter, Indiana Association, Jan. 1958)

#### Honey Price Support

According to the U. S. Department of Agriculture, as of Dec. 15 there were outstanding Government loans on honey to the amount of 1,931,375 pounds, which is more than at the same time in any of the last five years. These loans are pretty well distributed among the larger honey producing states, with California, S. Dakota, Minnesota, Florida, Arizona, and Washington being the leaders in amounts.

Purchase agreements at the same date totaled 258,660 pounds.

#### Safflower Growth Increasing

According to "Agricultural Research," safflower (used in paints etc.) is being grown in increasing amounts, there being more than 100,000 acres under cultivation at the present time. All that is needed is more intensified research and development effort on some of these new crops.

Pellett states (American Honey Plants) that safflower is quite attractive to bees and where grown in sufficient amount will yield a surplus of nectar for storage.

#### Bees To Get Still More Prominence

According to "Better Homes and Gardens," scientists in New Jersey are using bees to whip fire blight (a disease which has many times been blamed on the poor honey bee). This disease is especially prevalent on fire thorn, Cotoneaster, quince, pear and apples.

Bees were allowed to escape from the hive on their way to the orchard through a device that dusted them with streptomycin. The small amounts of this antibiotic that the bees carried protected fruit blossoms from the fire blight.

Is this only a step in future progress in the control of other diseases of plant life which might be controlled by the honey bee on her visits to the flowers in search for nectar?

#### New South Wales Publications

Four Pages of "Central and Mobile Extracting Plants" by N. A. Cutts, and similarly, discussion of the provisions of the changes in the Apiaries Act, have just come to us from the Department of Agriculture, at Sydney in New South Wales. We assume that copies may be obtained on request.

#### Versatile Boron

VERSATILE BORON, the gasoline additive and rocket fuel also lands a prune orchard job. A prune tree disease called "bushy branch" is actually a boron deficiency, California researchers say. Ailing trees sprayed with a borax solution last year produced up to 10 times as many prunes as a group of untreated trees nearby. (Exch.)



**BRAVE MAN**—John H. Furber, Auburndale, Mass., likes it too according to his smile. Don't call him foolish. Some of our bee boys dress that way too.



**POLLINATION**—E. R. Eaves' simple sign gets results. Nice, big highway to spot the message. Result, his bees are busy on farms each year.



**SPIDER AND BEE**—W. A. Stephen, Extension Specialist for North Carolina, caught this yellow spider trapping a honey bee. The spider's blending color fooled the bee.



**VERMONT HONEY QUEEN**—Pauline Matsen, White River Junction, Vermont, sent in by Robert Mead, President of the Vermont Association. She is eighteen, daughter of a bookkeeper, recent graduate of Hartford High. Now employed by the Miller Auto Co., White River Jct. Girl Scout, attended Girls State in 1956. Member of school Dramatic Club.



**POLLEN SUPPLEMENT**—From North Central States Bee Culture Laboratory, Madison, Wisconsin. Shows pollen cake partially consumed in second week in March. Cake protected by waxed paper. Probably two or three pounds of cake renewed as often as needed.



# The Sideline Beekeeper

February in the Midwest was such a beastly month that March may be early to consider feeding the bees. If you do have to do so try this ten pound pail with holes in center of lid. Placed over the center combs with protecting shell around it, one feeder with some dry sugar near it will provide enough feed for a couple of weeks or more.

## SPRING MANAGEMENT

by Edwin J. Anderson

Successful spring management depends to a considerable extent upon fall management and the location of the apiary.

Before we can enjoy full success with our bees, we must have them in a location where they get sunshine from early in the morning until late in the evening. Observations in the Penn State apiaries indicate that maximum flight hours and the warmth from the sun plus a protected southern slope are a great help to rapid build-up in spring. Two apiaries operated by the writer were good examples of the value of a select location. One apiary was located in a warm southern slope with a hill to the north and a heavy growth of trees to the west, fig. 1. The other was located in an open field with no protection against the cold west winds. A few feet behind this apiary was a small stream. Because of its lack of protection and its location near bottom land, the second apiary was often adversely affected by cold winds and by cool air draining down the slope and along the stream, fig. 2.

Colonies in the protected location built up rapidly and winter losses were never over 10 per cent. On the other hand, colonies in the apiary located in the open field were always slow to build up in spring. Winter losses in this apiary were sometimes as high as 45 per cent. The two photographs shown were



taken in these apiaries within an hour.

The first essential for spring management is, therefore, a location with wind protection, either natural or artificial, a southern exposure, and as much sunshine as possible.

The second essential is a young queen from good honey producing stock. Some bees are long-lived, some are resistant to adult or larval bee diseases, others are good workers. These are some of the traits we want in our bees and queens when the colonies are building up

in the spring.

The third item is the reserve food supply, as Dr. Miller used to say, "Millions of honey at our house." The honey required to provide food for a heavy build-up in late winter and spring is at least 40 to 50 pounds. If the supply runs low, egg laying is retarded or the colony may even die of starvation. Each colony should have 60 pounds of honey in fall. If the supply goes below four combs of honey during the spring months, feed sugar syrup as needed. Feed plenty, one five pound pail of syrup represents only about one-half a comb of honey and will not last a strong colony very long, a little extra honey is good insurance for the spring build-up.

In addition to these three factors, there are a number of management practices that are helpful in spring. They can be listed as the following:

1. Clean out the dead bees from any hives in which colonies have died during winter then store the hive bodies on a queen excluder so the combs are ventilated but are protected against mouse damage. If the dead bees are left between combs they will cause the combs to mold and rot to such an extent that the bees will have to tear them down and rebuild them if they are returned to the hive.

2. Remove dead bees from the entrances of each colony during February or March and scrape the ac-



Figure 1. One of the University apiaries located on a sunny, southern, side hill with good wind protection. The snow is all melted in contrast to the snow shown in figure 2 which was photographed one hour later.



Figure 2. Snow is still several inches deep in this apiary located in unprotected bottom land. The two apiaries are about 11 miles apart.

cumulation of dead bees from the bottom board as soon as the weather permits.

3. As spring progresses, check the colonies for queens. If any are queenless, they may be united with a weak colony or if they are fairly strong, a small package of bees with a queen may be purchased and used to requeen the colony and strengthen it at the same time. A colony that has been queenless for some length of time is likely to kill a new queen when she is introduced or at least be slow to build up because the nurse bees are too old to produce royal jelly efficiently. If a package is not purchased with the queen, two frames of emerging brood are given the queenless colony at the time it is requeened, these combs will supply the nurse bees needed. The introducing cage with the queen is placed between the combs of brood.

4. Reverse hive bodies during April (for Pennsylvania). Some queens are slow to move down into an empty hive body. Placing the top super with a supply of honey below and the empty combs above, provides plenty of space for the queen to lay in the empty body which is now on top. Queens naturally extend egg laying upwards more rapidly than downwards in spring since each colony strives to fill the hive or tree from the top down. The bees do not permit empty cells to remain long above honey or brood, hence the queen and workers move into the empty super placed above, and egg laying is stimulated.

5. Check all colonies for A.F.B. Control of American foulbrood might be listed as a spring management

practice, even though all infected colonies should have been destroyed the previous fall so none could be present when spring arrived.

6. Provide ample super space for honey storage and brood rearing early. This is the one spring management practice that is most often overlooked until too late. Every colony comes through winter with a strong working morale, which means a strong desire to rebuild the strength of the colony and fill the hive with honey. Each colony continues to work hard until it feels this is accomplished, then the desire to work hard is replaced by a desire to swarm. It takes a strong colony only a week to fill the hive with nectar from the maple honeyflow in April since this flow may yield as much as six pounds of nectar a day. When all the combs are filled, the colony morale is weakened and swarming takes its place. The hive is full from the standpoint of the bees before the two outside combs are sealed. If these combs contain honey and unripe nectar, the bees seem to consider them full. An extra extracting super on top of the hive does no harm even though it is not needed at once, but a crowded hive can cause the beekeeper a big loss. Empty or partly filled extracting supers are placed next to the brood chamber as needed with a spare empty super on top. When sealed honey and brood meet in the hive, it is again a signal that the spring build-up is completed and it is time to swarm. This condition can be avoided by placing an empty or partly filled super above the excluder when the previous one is three-fourths full.

The queen excluder is placed above a single brood chamber or above a hive body and a shallow super, at the beginning of the main honeyflow. The queen is confined to the bottom for the rest of the season. If we don't use an excluder for colonies in our location in central Pennsylvania, the queen will lay in three or four supers and it is then a problem to remove honey for extracting. The bees, when not restricted, will also raise brood extensively after the honeyflow is over using the light honey as food. The strong colonies thus produced will often gather dark honey or honeydew in late summer. If excluders are not used, there are generally one or two empty hive bodies left at the bottom of the hive in fall that have to be removed before the bees go into winter. The bees in these supers are especially nasty and sting freely making this an unpleasant job.

Other minor spring management jobs could be mentioned such as providing shade boards, extra ventilation, leveling the hives, etc., but space is limited and major management practices have been discussed in some detail. One last item might be mentioned, however, because it sometimes causes the beginner some trouble. This problem is that of drones caught above the excluder. These drones die because they cannot get through the excluder and their remains clog the space between wires and interfere with work in the supers. To avoid this trouble, push the first extracting super above the excluder back far enough to let the drones out. This space also provides ventilation and helps control swarming.

# A Honey Filter For The Small Beekeeper

by Marvin M. Parker

Clean, sparkling, clear honey attractively packaged and labeled commands attention on the grocer's shelves. This is one reason large packers of honey use expensive equipment to filter honey. Filtering gives honey a degree of clarity that cannot be obtained by any other means. Another practical reason for filtering honey is the removal of small amounts of pollen grains, and other very small particles of foreign material not removed by the usual methods of straining and settling. Removal of this material greatly retards granulation if the honey is properly handled after filtering.

These advantages still do not justify the expense of a plate filter and its companion equipment for the small beekeeper. Early granulation of honey on the grocer's shelves is a problem that must frequently be solved, usually by replacing the granulated honey with fresh stock. Meanwhile, sales have been lost because of the unattractiveness of the display.

Early this season, the writer devised filtering equipment which will duplicate many of the advantages of plate filtering equipment, yet at a modest cost. Fig. 1 shows the complete filter ready for operation. Basically, the filter unit is the same equipment used by dairies to filter milk. Vacuum pressure is used to force the honey through a standard milk filter disk made of bonded cotton fiber. The milk can is altered to provide a drain at the bottom and fittings for the vacuum hose and gauge at the top. The funnel and tube inside the can are needed to prevent formation of air bubbles which occur if honey fell in small streams to the bottom of the can. The slot in the tube will allow any air bubbles which may be formed to flow out of the tube and remain on top of the honey. Fig. 2 shows a cut-away view of the altered milk can. A piece of truck inner tube six inches long stretched over the top of the can and folded back makes a good seal between the can and the strainer.

Vacuum pressure is supplied by the refrigerator compressor and a suitable used one can be obtained at



Figure 1 — Complete filter assembly ready for operation

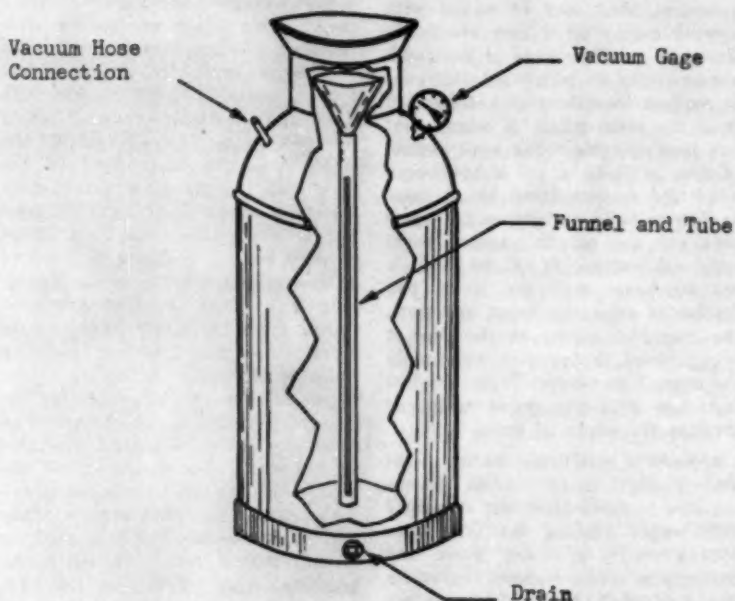


Figure 2 — Cut-away view of altered milk can showing funnel and tube.

junk prices from almost any dealer in appliances. It is advisable to wear close fitting goggles when dismantling a refrigerator unit. Often, discarded units contain small amounts of gas and a serious injury might result if this gas blew into the eyes. With a little mechanical ingenuity, a beekeeper might produce a suitable vacuum pump by reversing the leather in a tire pump and driving it at a speed of about 60 strokes per

minute. A trap is placed in the vacuum line to guard against an overflow of honey entering the pump.

The vacuum gauge is not an absolute necessity, but it enables the operator to tell how his equipment is operating and to diagnose most of the difficulties which arise. Slow filtering may be due to: (1) A clogged filter disk, (2) honey too cold or (3) insufficient vacuum pressure.

Honey to be filtered is first strained and settled in the usual manner. It is then carefully heated to 150 degrees F. in a double boiler. One equipped with a mixing paddle would be a good investment for this purpose. The filter bowl is filled with

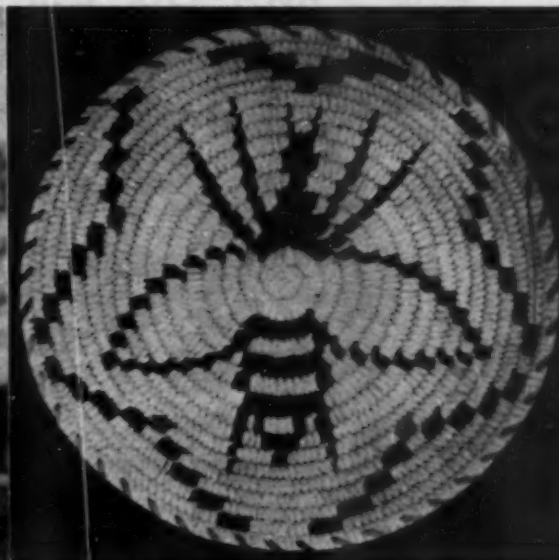
the heated honey which is drawn through the filter disk by means of vacuum supplied by the pump. The disk needs replacing with every 50 lbs. or so of honey filtered, depending, of course, on the amount of material removed. The capacity is about 200

lbs. per hour. No appreciable amount of flavor and aroma is removed by the pump, possibly because the honey is held under vacuum pressure for only a short time. The filtered honey is remarkably clear and granulation is greatly delayed.



Laura Sacramento seated on the left is holding the bee basket she wove from a design by S. E. McGregor. Lustinga Francisco on the right is admiring a Pima-type willow basket purchased from Indians further north.

(M. P. Johansson)



The Papago bee basket presented to Dr. Eva Crane of the Bee Research Association on her recent visit to the U. S. D. A. Southwestern Bee Culture Laboratory in Tucson, Arizona.

(M. P. Johansson)

## A PAPAGO BEE BASKET

by Tage Johansson

This basket with a bee design has a story which reaches from the Arizona desert to Gerrards Cross, England. It was expertly woven by Laura Sacramento in her meticulously neat adobe house in Coyote Village on the Papago Reservation where living is still dignified, uncluttered and unhurried. There is time to see the desert, to talk, to philosophize and to respect craftmanship.

The story began when S. E. McGregor (of the U.S.D.A. Southwestern Bee Culture Laboratory in Tucson, Arizona) met Gene and Caroline Carey, cooperators on a cotton pollination project. The Carey's ranch is near the Papago Reservation and they employ Papago Indians as field hands and pickers. That they took advantage of this unusual opportunity to acquire first-hand knowledge and understanding of Papago culture is very much to their credit and a boon to acquaintances.

The bee basket was conceived in the mind of Mr. McGregor sometime after he saw the large collection of Papago baskets which crowd the wall space of the Carey's ranch house. He drew the design on graph paper and the Careys undertook the lengthy and complex negotiations necessary before yucca, beargrass and devil's-claw were combined to create the basket. There were several expeditions (about 100 miles round trip) with gifts and an interpreter before the reluctance of Miss Sacramento to weave a nontraditional design was overcome but eventually "Mac" had his basket.

The story reaches out across the Atlantic Ocean to England when Dr. Eva Crane of the Bee Research Association came to visit the Tucson laboratory last April. The "machinery" was again set in motion and the Careys presented a basket to Dr. Crane (also one to Mr. Frank E.

Todd for the Bee Culture Laboratory). A basket with a bee on it is now in the Crane's sitting room as a reminder of the Southwest.

### Who Knows What?

An elderly man near me had 235 colonies in one yard, all in old gums or box hives. I got him to put some of them in modern equipment and some of it had had moths in it. He said his bees did not want to stay in these hives for that reason. Some of the colonies were almost half drones and I mentioned that to him but he believed the drones were worth a lot to the bees because, when a storm was coming up suddenly, the drones flew around and warned the workers to come home!

J. R. Carr  
Plymouth  
North Carolina

# The Beginner and His Bees

by W. W. Clarke, Jr.

Bill looks wistfully towards the future of his Department. Why don't you Beginners send some questions for him to answer? The hope is that there will be enough of this kind of material to give a new slant to "The Beginner and His Bees."



*What is the best way to eliminate bees from a building which is about to be painted?*

Answer: Probably the best way to eliminate bees from a building where they are not wanted is to call in a reliable beekeeper to remove them as a unit. He could either trap them out by using a bee escape or a cone made of wire which covers the hole allowing one bee at a time to come out, but not return to the nest. If there is more than one hole, all others should be closed except the one with the trap. Place a hive containing a frame of brood and a queen cell or a queen in the hive along side of the trap. The bees that cannot get back into the house will become established in the hive. After 30 days all the bees should be out. The holes in the house should then be closed. The wax moth will clean up the wax. Or the siding may be removed and the comb and honey removed. If the comb and honey are not removed, there will be an odor and possibly a mess from the wax moth and the melting wax and honey.

They may also be eliminated by killing the bees. Here Lindane, Chlordane, or a similar dust may be blown into the hole, using a duster to be sure that the dust is well distributed through the area. Dust is more effective than spray and probably less expensive than an aerosol.

This may be done by anyone, but a bee veil should be worn since the bees will probably become excited and fly about. The work may be done at night when the bees are not flying. It may be necessary to repeat the treatment. When there are no more bees flying, the entrance should be closed to prevent robbing of the honey and killing other bees. Here again the comb and bees may be removed by opening up the siding of the building or it may be left for the wax moth to destroy the comb.

Little is gained by removing the bees unless the building is made bee tight after the colony is eliminated, since another swarm is almost sure to enter the house.

*When is the best time to requeen? You recommend fall requeening, but talk about it during all seasons.*

As an old queen breeder once said, "The time to requeen is when you can find the old queen." Actually we recommend fall requeening in Pennsylvania for several reasons: first, we feel that we can build a better colony by having a good young queen that will lay eggs in the early fall (August and September) as well as probably starting to lay earlier and heavier in the spring. It has been the experience of many of our beekeepers that swarming is reduced when fall requeening is practiced. The disadvantage is the difficulty in

finding the old queen in such a large colony; this may not be a problem with you.

Rather than make the general rule to requeen every fall, it would be better to learn to distinguish between a good and a poor queen so that the poor one can be replaced any time during the year. Many of the better beekeepers keep a few queens on hand, either in a small hive known as a nuc, or on top of a colony over a double screen.

A poor queen is usually identified by a poor brood nest. If many cells are missed with brood or eggs or if there is drone brood in worker cells, this is usually interpreted to mean the queen is failing. The presence of queen cells may indicate that the colony is going to swarm or the queen is going to be superseded; in either case it would save time and trouble to remove the queen cells, kill the old queen, and requeen. Why not allow the colony to rear its own queen? Mainly because of the loss of time; it takes 16 days for the queen to emerge and another ten days before she begins to lay. This is a lot of time and brood lost. Besides, there is some thought that the swarming habit may be inherited and if this is true, then it would not be desirable to perpetuate such strains. Not all swarming is inherited, much of it is caused by poor management.

*What plants may be planted to aid the bees in making honey?*

**Answer:** It is probably safe to say that it is not practical to plant just to try to produce a crop of honey. You must plan to make other use of the plants: for ornament, soil conservation, or a crop from the plants. It is the practice of beekeepers to move their bees to the crops rather than try to plant just for bees.

It is possible even in the small home yard to assist the bees by planting such shade trees as tulip trees, maples, willows, basswood, and the bee tree along with many others. Many other trees and shrubs will be of some help, such as sourwood, Clethra, barberry, berries, coralberry, golden-rain tree, hawthorn, locust, privet, red bud, sassafras, shadbush, spicebush, spirea, sumac, vitex, and many others. Of the perennial and annual flowers there are so many that it would be difficult to name them. I suppose in most cases the legumes, mints, and herbs are of prime importance.

The home lawn can be a good source of white clover, but the trend seems to be toward solid grass rather than a mixed lawn. Sweet clover along lanes, roads, and in waste places will help.



#### How To Unite by Using Newspaper

The newspaper method of uniting two different colonies is simple and effective. Use two or three thicknesses of newspaper and make a hole, pencil size, in center for a start for the bees to chew away the paper. Set colony with best queen on top. The newspaper barrier will be gradually removed and the bees will mingle peaceably. Any paper remains can then be scraped off by the beekeeper. There will be two queens for a time but usually the best one only remains. If you want to be sure of the queen of your choice being left, dequeen the lower colony before uniting.



Cantrell among his bees

## HOW and WHY I Started KEEPING BEES

by I. W. Cantrell

I had often read of how bees pollinate fruits and flowers. How they raise their young, and store huge supplies for winter. I often wished since I was a kid on the farm in the thirties that I could keep bees. I was so afraid of them then, that if one came near me in the field, I would jerk off my old straw hat and fight it like a maniac. Still I longed some day to be able to keep bees.

I have learned since, what the majority of people never know and that is the simple fact, the honey bee is much too busy too pick a fight. They fight only in self-defense. I once thought a bee sting was about the worst thing that could happen to anyone. I wonder now how I could have been that ignorant.

It was my ignorance of the nature and habits of bees that caused me to be afraid of them. I have always thought, what the average person can do I can do a little better.

I got some books on beekeeping and read every book I could find in the library on bees. I read and reread the books. Still I was afraid to try keeping bees. Finally on April 18, 1954 I had six hives with foundation set up and painted. The three pound packages arrived and I was scared stiff. I had on an outfit that looked like an imaginary space traveler. I tried installing a package in one hive and found out I couldn't do anything with heavy gloves on. I couldn't even get the feed can out of the top so I could pour the bees out. Right then I got rid of a pair of gloves and two jackets. I found the little critters were so glad to be let out that when

they crawled on my hands and face they didn't act like they wanted to sting.

I didn't go by the bee books and wet them down before installing them. I wanted them to fly and get some work done. I really felt important when I finally got them all installed in those nice new hives. The season was good and they filled two hive bodies with brood and honey. Then some school kids tore two hives down with sticks and threw dirt in them. In spite of everything I got enough honey for our own use and gave the people where I kept the bees some. I also gave some to some sick people. Even though I made a little honey I was badly disappointed. Then in the spring of 1955 I repaired the two hives that had been battered up. I got some more packages and started again. That year early there was a world of white clover. My hives were boiling over with bees. I almost gave up when I had to buy about sixty dollars worth of extra hive bodies, supers, and foundation. One hive had so many supers I had to stand on a hive body to put on or take off a super. I had to extract from part of the hives, the supers that were capped every week to keep them from getting too high. I was finally in the bee business. I made enough to pay for my bees and a three-frame extractor, half of the equipment, and gave honey to all our friends. I also furnished honey to a Mission. The superintendent of the Mission on whose property I kept the bees can verify my story. I harvested over seventeen-hundred pounds of honey. I had a label made with a picture of our little friend and called it Farmers' Daughter Brand Honey. I get letters of praise from lots of customers who buy it at one of the local markets or stop by the house for it. I sell some honey every year.

Sure I have a lot to learn and last season I only harvested six or seven hundred pounds from all six hives; but you got to have hope and imagination in any kind of work.

I hope to increase this year. I believe in a good season, in a good location and a good strain of bees I can get over a ton of honey and more than a ton and a quarter from ten hives managed right. Perhaps it has already been done many times. Perhaps it is even common in some sections of the country. I don't know. I do know I have never heard of it around here. Peoria, Illinois



## SCIENCE EDITOR

DR. WALTER ROTHENBUHLER  
Iowa State College, Ames, Iowa

## The Solar Compass As The Basis of Communication In The Colony

by KARL VON FRISCH  
University of Munich

It is a well-known fact that some insects can use the sun as a guide for short periods. Ants on the march will immediately change their direction by 180° when they are prevented from seeing the sun and are shown its reflection in a mirror on the opposite side instead.

Experiments with bees have shown that they can use the sun as a compass for orientation in the field even for a considerable length of time. This is proved by the following example: At noon an observation hive is set up in a region completely unknown to the bees and some 30 numbered bees are decoyed to a feeding place, say 200 meters west of the hive, where they are fed sugared water all through the afternoon until nightfall. On the following morning the hive is set up, many miles from the first location, in a landscape which is unknown to the bees and quite unlike the first. The hive is so placed that the entrance opens in a direction other than that on the day before. The bees are released in the early morning. Feeders are set up at a distance of 200 meters west, east, north and south of the hive. The vast majority of the numbered bees that had received their food 200 meters west of the hive on the previous afternoon will fly to the feeder in the west where they are immediately captured so as to prevent them from transmitting information to the other bees. Although they had no possibility of orienting themselves by familiar landmarks, and although the position of the sun was quite different from that of the previous afternoon, they found the direction in which they had been trained to fly.

This proves that bees use the sun as a compass. It follows that they can tell the time of the day and that they are familiar with the daily course of the sun.

We have long known that the time instinct of bees is extremely well developed. By feeding them at given hours of the day bees can be trained to come to the feeder at any fixed hour. In a darkroom with lighting conditions kept constant they can even be trained to feed at different hours of the night, even around midnight. Evidently, the bees have an inborn "clock" and can tell time without reference to environmental factors that can be perceived by the senses. This is also proved by the following experiment. My collaborator, Dr. Renner, trained bees in an illuminated darkroom in Paris to feed at a certain hour and then transported them to New York by plane. There they were accommodated in a room of the same type and it was seen that they came for their meals according to Paris time instead of local time.

There is no doubt that bees in the field find their bearings not only by the sun but also by conspicuous landmarks. In experiments, I carried out in collaboration with Lindauer, I have tried to find out the relative importance of these two methods of orientation.

Thus bees were trained to find a feeding place by flying along the edge of a forest in a north-south direction. On the following day they were transferred to a very similar forest edge, which, however, ran in an east-west direction. They tried to find the feeding place by flying along the forest edge, i.e. in a wrong direction.

Similarly, the course of a highway or of the shore of a lake is a more important factor in the orientation of bees than the position of the sun. On the other hand, isolated trees or a forest edge at a distance of more than 200 meters are of less importance to orientation than the position of the sun.

Bees that have found a good source of food at some distance from the hive convey this information to their mates by performing wagtail dances. The rhythm of the dance indicates the distance of the objective, while the direction is shown by the movement of the tail, the position of the sun serving as a point of reference. In the dark hive, on the vertical surface of the comb, the dancer has no way of indicating directly the direction to be followed, consequently, the dancer transposes horizontal directions into the vertical plane according to the following code: tail pointing vertically upwards=objective in the direction of the sun; tail pointing upward at an angle of 60° to the right of the vertical=objective 60° to the right of the direction of the sun; tail pointing vertically downwards=feeding place in a direction opposite to that of the sun. It can be shown that the bees alerted by the dances actually follow these directions very closely.

In swarming the scout bees follow the same method of communicating to the clustering swarm the distance and direction of a newly discovered dwelling place. In many instances, the discovery of such a dwelling place is already announced to the swarm before it has left the hive. All dance differently. Some find one place—others, another place. After a few days they agree on a place. Apparently graded by pep and vigor of dance. Thus a bee that hasn't found too good a place goes out, checks the place another scout bee found. So he returns, begins to advertise the same place by dancing for hours. This goes on until agreement has been reached.

In the latter case it may happen that a scout bee, in order to indicate the new dwelling place, performs wagtail dances for hours on end without any intermediate flights (Lindauer). In such cases the indefatigable dancer gradually changes the direction indicated by exactly the same angle by which the sun has progressed in its course, even where

the dancer has no possibility of directly observing the change in solar position. No evidence could possibly be more convincing to prove their consciousness of time and of the daily course of the sun.

The fact that bees know the solar position to be expected at any given hour can best be proved by confronting them with a "wrong" position of the sun. This experiment was carried out by Lindauer while he was staying in Ceylon as part of a study trip.

In Ceylon he trained numbered bees to get their food from a feeding table located to the north of a hive and then the colony to Poona (on the Indian mainland) by plane. On April 24, the noon position of the sun at the Ceylon site of the experiment was 5° north, while in Poona it was 5° south of the zenith. The bees that had been taken to Poona were released when the sun had reached its highest position and flew south instead of north to find their habitual feeding place.

Knowing the position of the sun is of crucial importance to the orientation of bees and to their ability to communicate. Accordingly, the bee's eye is better equipped than the human eye to discern the position of the sun, even under adverse conditions.

Bees are able to see the sun even through an uninterrupted stratum of clouds. It can be proved that this ability is due to the extreme sensitivity of the bee's eye to ultra-violet light.

Even when the sun is hidden behind a hill or a building, or after it has set below the horizon, bees can tell the position of the sun, provided that the sky is clear, or, at least, that a patch of blue sky is still visible. The reason is that the light reflected from a blue sky consists mainly of polarized light rays, differs in different parts of the sky and bears a fixed relation to the position of the sun. We are not able to recognize these differences by direct observation, because the human eye is not capable of perceiving the direction in which polarized light oscillates; however, the bee's eye is. This can be proved in a very simple way, by tilting an observation hive into horizontal position.

When bees are dancing on a horizontal plane and have an unobstructed view of the sky, they will point directly to the objective by main-

taining the same angle in relation to the sun as they had followed in their flight to the feeding place. If they are prevented from seeing the sky, their dance loses all sense of direction. However, the direction will be corrected immediately, when the bees are allowed to see a small patch of blue sky. The fact that they are guided by the oscillation direction of the blue light reflected from the sky can be proved by interposing a polarization foil capable of being rotated. By means of this device the oscillation direction of the polarized light can be changed at will, such changes immediately being reflected by corresponding changes in the direction indicated by the dancer.

Thus, the sun and the polarized light reflected by the blue sky serve bees as an ideal compass to help them find their own way and point the right way to their fellow bees. (From the report of the Vienna Congress)

### Honey-Sac Capacity In Some Honey Bees

Studies were made on nine hundred and seventy-two honey bees from eight different hives in order to ascertain the honey-sac capacity. The bees were captured before they had left for the fields by placing a screen cage or trap before the entrance. The cages were then taken to the laboratory and the bees liberated on the window pane. It was easy to capture them and place them, one by one, in screen mailing-cages.

After a few minutes, each cage was brought under a pipette graduated in micro-centimeters and containing 40 percent solution of sugar in distilled water. Each bee was allowed to take as much of the solution as desired and a reading was made directly from the pipette.

The readings for each colony were quite consistent. The average amount of solution ingested by one colony was 0.040 cc., or 1.63 times as much as that ingested by another colony, -0.024 cc.

Measuring the capacity of the honey-sac presents one factor that can be used in testing bees for honey-storing ability.

Claude R. Kellogg,  
1519 Avenue Q, West  
Palmdale,  
California, U.S.A.

### Sex Determination In Honey Bees

During the past ten or fifteen years bee breeders and bee geneticists have become increasingly concerned about the problem of what makes an unfertilized bee egg become a male and a fertilized egg become a female. The most likely theory, along with some supporting evidence, was advanced by Dr. Otto Mackensen of U.S.D.A. at Baton Rouge, Louisiana. Proof of the theory has eluded all investigators until the summer of 1956 when Dr. Walter C. Rothenbuhler at Iowa State College performed an experiment using his unique strain of gynandromorph-producing bees. He discovered some very unusual bees in three experimental colonies. These bees were mosaic drones, which means that these drones did not have the same hereditary characteristics throughout their bodies. The important point was that part of each mosaic drone had both a father and a mother. Drone ordinarily have only a mother.

This discovery by Rothenbuhler, recently reported at the International Congress of Entomology meeting in Montreal, Canada, adds the final proof to the sex-allel theory of sex-determination in honey bees. This proof is of great scientific importance to biological scientists and of considerable practical importance to bee breeders. It means that all closely inbred lines of bees will produce approximately 50 percent dead eggs and 50 percent hatchable eggs. Such a situation makes bee breeding more difficult than it might have been otherwise, but once a difficulty is analyzed and understood, steps can be taken to get around it.

### Therapeutic Application of Royal Jelly in the Treatment Of Malnutrition in Infants

Ten undernourished babies (simple hypotrophy to serve dystrophy) aged 4 to 22 months received a daily dose of 10 to 50 mgs. of royal jelly (orally) for periods ranging from 11 to 61 days. Each individual case was evaluated according to

- a) weight,
- b) blood count,
- c) proteins and serum lipids.

In the majority of cases a very marked gain in weight was observed. In all cases there was an increase in red blood cells and hemoglobin.

Wherever proteins, lipo-proteins and serum lipids were administered either in natural combination or fractionally the well-known changes caused by malnutrition were reversed, particularly in connection with the albumin fraction, accompanied by an increase in the A/G ration. Apart from a slight increase in lipids there were no significant changes in other lipid or lip-protein fractions. Prof. Dr. P. Prosperi, Child Clinic, University of Firenze, Firenze, Italy.

#### Annual Entomological Review

From the publishers, Annual Reviews, Inc., at Stanford, California comes Volume 1, 1956, a 466-page clothbound book entitled "Annual Review of Entomology." It should be a "must" for the entomologist. E. A. Steinhaus is editor, R. F. Smith, associate, and various chapters are written by specialists in their fields.

Those chapters especially applying to beekeeping are:

1. "Language and Orientation of the Honeybee," by K. Von Frisch and M. Lindauer. Of interest is the fact that in different localities bees have "dialects," such as the "sickle dance" of the Swiss bees.

2. "Some Recent Advances in Apicultural Research" by C. G. Butler of England, which discusses clustering, anaesthetizing of honey bees, caste determination and queen production control.

Honeydew secretions are discussed on page 30 of the Review and there is information on repellents, transmission of plant viruses, and so forth. The price of the book is \$7.00 in the U. S. and \$7.50 elsewhere and it may be ordered from the address above.

#### Increase of Nectar Production By Fertilizers

F. N. Monakova and K. M. Chebotnikova (Kazakh Beekeeping Exp. Sta., U.S.S.R.). *Pchelovodstvo* (8), 44-6 (1955); *Bee World* 38, 190 (1957).—An application of complete fertilizers or superphosphates increases nectar secretion of sunflowers

(*Helianthus annuus*). In cotton (*Gossypium*) the nectar production was increased about 130% by the application of K or complete fertilizers and by 170% by the addn. of superphosphate. In lucerne (*Medicago sativa*), an increase of 202% followed complete fertilization.

Digest by  
F. B. Wells

#### Gallimycin Controls European, not American, Foulbrood

Dr. R. L. Parker of Kansas State College really just gave us a red face. In our article "ABJ Experimental Apiaries," page 28, January, in the next to the last paragraph it is stated that gallimycin shows good control of American foulbrood. It should have read "European foulbrood." Why didn't those brass hats who first named these two brood diseases name them more effectively instead of using continental names like European and American? Maybe something like "loose and tight brood diseases." Figure that out?



## Industry Editor

ROBERT BANKER  
Cannon Falls, Minnesota

## WORLD TRADE IN HONEY

The Sugar and Tropical Branch, Import Division, U. S. Department of Agriculture, recently issued a mimeo. bulletin entitled "Honey Trade for Specified Countries." This 5-page publication gives the exports and imports of honey for countries throughout the world. Total world exports of honey for 1956 were about 111.6 million pounds, and world imports are listed as 108.0 million pounds.

North and Central America are reported as a net exporting area, which means that the area exports more honey than it imports. Canada was a net exporter from 1950 through 1953, but since that time has im-

ported more honey than it exported. The United States has been a net exporter since 1951. Below are given U. S. exports and imports in thousands of pounds:

For 1956, Mexico was the largest exporter of honey with 21,053,000 pounds, the United States was second, Argentina came next with 11,121,000 pounds, Cuba next with 10,997,000 pounds, and Chile next with 7,000,000 pounds. Germany outranked all other countries with imports amounting to 58,980,000 pounds. The next largest importer was the United Kingdom with 14,753,000 pounds, mainly from Australia and New Zealand.

	1951	1952	1953	1954	1955	1956
Exports	12,670	23,177	32,850	24,280	20,485	18,240
Imports	8,174	8,483	9,785	9,152	9,856	4,781

#### Keep Bees With Ease

"Agricultural Research" in its November number goes into some detail on investigations going on in some of our experiment stations with the idea of making the handling of bees easier and less expensive, and perhaps lessening the labor on say the two-queen system so that the labor cost will be greatly reduced. Scientific hive lifters and handlers are one of the proposed solutions.

In the uncapping field as many as 20 combs per minute can be uncapped by means of heated perforated rollers through which the combs pass. It only remains to clear the resultant cappings still left sloughed on the combs so that when returned to the hive these partly perforated cells will again be used by the bees instead of perhaps being sealed over empty with these partial cappings.

#### Legume Seed Prices Lower

According to the U. S. Crop Reporting Board, prices offered on legume seeds are below a year ago, although lately there has been a slightly rising tendency.

Soil banks and lower prices should tend to increase acreages of these seeds planted.



### Henry Rahmlow Retires From Wisconsin State Horticultural Society

Mr. H. J. Rahmlow, for 30 years secretary of the Wisconsin State Horticultural Society, retired on February 1, 1958. The Rahmlows moved to St. Petersburg, Florida, where they will spend about eight months of the year.

Mr. Rahmlow spent four years in teaching, after graduating from the University of Wisconsin College of Agriculture in 1915, then eight years as a County Agent before becoming secretary of the society and editor of *Wisconsin Horticulture*.

In 1933 the Wisconsin Beekeepers' Association voted to affiliate with the Horticultural Society and elected Mr. Rahmlow as corresponding secretary and adopted *Wisconsin Horticulture* as their official magazine. For twenty-four years Mr. Rahmlow edited *Wisconsin Beekeeping* as a section of the magazine. He had adopted beekeeping as a hobby in 1918 and kept 200 colonies of bees for many years. His close association with Dr. C. L. Farrar and the work at the Central States Bee Culture Laboratory enabled him to bring to Wisconsin beekeepers many improved practices. He spoke at a number of state, regional and county association meetings each year with slides and films he prepared of Wisconsin beekeeping methods.

Mr. Rahmlow says he found beekeeping always interesting, usually profitable with plenty of healthful exercise.

### Mead Making

In November on page 435 mention was made of a booklet, "A Background to Mead Making," distributed by the Central Association of Beekeepers in England, available at 60c postpaid. Several readers wrote about it but unfortunately the address was incomplete. Mrs. M. E. Horton, secretary of the Association, gives it as follows: Mrs. M. E. Horton, 8 Gloucester Gardens, Ilford, Essex, England.



### A. Burr Black Retires

A. Burr Black, with the Oregon Department of Agriculture since 1935, closed his career and retired to a little acreage north of Salem. There he will indulge a hobby, tinged with some hope of supplementing his state retirement pension, of raising nursery stock.

Mr. Black was one of the veterans on the staff of the Department of Agriculture. Black stepped into the position from work as a laboratory instructor in entomology at Oregon State College, where he took his M.S. degree and wrote his thesis on beekeeping in Oregon.

Until the last year or two, he owned bees so talked bee language from a practical as well as a regulatory standpoint. (over)

## Changing Attitudes

An example of the change in attitude toward bee diseases, in this particular instance towards American foulbrood, was presented to us during a recent visit with a 1,000 colony beekeeper. He stated that if he couldn't get his price for his crop of amber honey, he was going to feed it back to his bees in the spring, getting his money back through stronger colonies and increase for the early crop of white honey. There was no indication that all the precautions of boiling at least a half hour in a covered vessel would be carried out.

Why this change in attitude, where formerly feeding back of honey was almost taboo and unheard of? First, we can point to the relatively improved disease situation, partly due to more thorough inspection both by the bee inspectors and by beekeepers themselves. Secondly, we might cite the shrinkage in the numbers of smaller beekeepers in some areas, whether this is a good or bad tendency.

But most of all this change in attitude is due to the use of drugs. While everyone is not wholeheartedly for drug treatment, especially some inspectors because of the very nature of his position and also because he has to cope not only with the alert and up-to-date beekeeper but also the careless and disinterested one, still we do know that transmission of the spores is generally accomplished in the first few days of larvae growth. Thus, it is possible at least to guard against disease by the precaution of adding drugs in all our feedings, and avail ourselves of a deterrent or preventive against disease.

Two other large commercial beekeepers made the statement that use of drugs had made expansion of outfits possible today where prior to use of drugs, such expansion was out of the question. They pointed out that today it was possible to manage bees in a more routine way and without the requirement of thoroughly experienced help—thanks to their use of drugs.

Yes, the use of drugs has brought not only a change in attitude on the part of beekeepers, but has brought a new outlook to the beekeeping industry.

### A. Burr Black Retires (continued)

Black was born in Iowa in 1892 and moved to Oregon in 1903. He was graduated from Oregon State College in Horticulture in 1916, and first worked as an official cow tester with the U.S. Bureau of Entomology and Oregon State College. The next 14 years he spent as a vocational agriculture instructor in Oregon schools and followed this with six years as a school principal and another three years as an athletic coach.

During the first year Black served as apiary inspector in Oregon, 32.5% of the apiaries inspected were infected with American foulbrood. Ten years later, the percentage had been reduced to 11.4% but was up to 16.5% in 1957.

When the use of modern miracle drugs to control bee diseases got underway some 12 years ago, Black was one of the first to raise his voice in warning that all was not yet known about the feeding of sulfathiazole. As late as March 15 last year, he wrote to Oregon beekeepers, "the use of drugs for controlling bee diseases is still a controversial issue. We feel drugs should not be used by bee owners unless they plan to carry out a well planned program through the year." Then he added that burning diseased colonies is still the best control.

When Black retired, his fellow workers from the State Department of Agriculture presented him with a pair of binoculars.



Dr. V. G. Milum training bees for Farm and Home Festival

### Bees Get Training for Farm and Home Festival

While most bee colonies are peacefully hibernating in their hives this winter, some bees at the University of Illinois are somewhat less fortunate. They are part of the observation hive that will be displayed at the Farm and Home Festival, March 27-29.

These bees are enclosed inside a glass panel where all their movements can be safely watched by festival visitors. For the past several weeks, V. G. Milum, professor of apiculture, has been training the bees to come out to a new feeding location.

Then when Festival time arrives, he plans to put up special artificial flowers for the bees to feed from.

Other parts of the Festival bee exhibit will include a large screen house where dwarf fruit trees in blossom will be placed. The attendants at the exhibit will show how to handle and work with bees. They will also explain the different management practices to produce extracted honey, section comb honey, and bulk comb honey.

(From Extension Editorial Office, University of Illinois)

### WHAT ABOUT SPORTS COLLEGE?

Once upon a time, a Canadian named Lloyd Percival set out to make Canadian athletes the finest in the world. As a part of his endeavors he established Sports College which has been called "the most advanced youth program in the world."

A part of the Sports College program was to test sports equipment, athlete's diets, and training methods, and to select and recommend only the *best*.

Starting about 1951, Sports College recommended honey as the ideal energy food for athletes and as a "jack-up" during athletic performance and to combat fatigue. The American Bee Journal in 1952 highly lauded Sports College as "a honey of a project" in an article that quoted them as saying, "In track and field alone, athletes using honey have won over 1,000 championships and broken 300 records."

This test program with honey was financed in part at least, by the Canadian Honey Council and to a lesser extent by The American Beekeeping Federation. It may well be presumed that this financial support was limited and beekeepers on the American continent took pride in the fact that regardless of interests capable of giving greater financial support, Sports College continued to recommend honey as the ideal energy food for athletes.

Recently Sports College News has discontinued the mention of honey and instead are recommending this high energy drink—1½ to 2 cups of skim milk powder to a quart of water, with one large tablespoon of *corn syrup* per eight ounce glass. Bee Hive Golden Corn Syrup is recommended as being pure and high in energy content.

We are not in position to argue the relative merits of honey and corn syrup as a source of energy for athletes. However, from the information we do have, we certainly are ready to question that corn syrup is as good as honey for this purpose. We further wonder if it was not a matter of money which resulted in Sports College now recommending corn syrup, and especially a particular brand of corn syrup, instead of honey.

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Have few more open dates for April.

**Carlus T. Harper**  
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# THE UNDERCURRENT

Now we're clicking. More answers this time. Contributions should be short. Try to get your answers here before the 20th of the month or they may be too late. For published answers, your subscription will be extended a month per type inch. Subjects for "Undercurrent" are welcome. What do you think should be considered?

## SUBJECT FOR THIS MONTH:

### How Shall We Encourage Young People to Enter the Industry?

(Suggested by Ronald Wulff, Charles City, Iowa)

From W. F. Perschbacher  
Edmonton, Alberta

Young people are more interested in contests than in financial problems. Let's have some beekeeping contests. A number of young folks could have one colony each in a central place, started in spring as nearly equal as possible. In July have a field day for judging the colonies with a prize to the best. Include total weight; net weight of honey; amount of sealed, ripe honey; color of honey and cappings.

From Roger Heywood,  
Council Bluffs, Iowa

There should be some way for young people to learn more about beekeeping first hand to encourage newcomers. If present beekeepers would each take one future beekeeper and try to make him expert, this would stimulate new interest and create new enthusiasm in the industry.

From Julius Lysne  
Stockholm, Wisconsin

By being always ready to answer questions about bees, by setting a good example and always having our bee yards looking nice. Be ready to show that the handling of bees is an art that anyone can learn with proper study and work. Make it clear that beekeeping is not a quick road to wealth but that it can provide a comfortable living.

From Robert H. Rusher  
Hyannis, Cape Cod, Mass.

By proper inoculation with bee fever. This happened to me at age 11 and to my partner, Fred Smith, at

age 10. It was brought about by PATIENCE: in answering seemingly endless and pointless questions to teach the workings of the colony in simple terms and by demonstrations of all phases of beekeeping in proper sequence. By PARTICIPATION: Let the youngster light the smoker, don the veil, open the hive. To see a kid look over his first comb of bees is quite a thrill. By INCENTIVE: Don't kill initiative by over-patronizing. Give the lad the care of a hive and make him earn it by helping with the apiary work and sharing with him the crop from his colony. It usually works. My teacher was Washington Keyes, age 82 when I got my first colony. He also started when he was 10. This is a chain of 102 years of beekeeping.

From Cecil B. Hoy  
Armstrong, British Columbia

Perhaps the most practical and effective way to encourage young people to enter the industry is for each beekeeper to interest several of the most likely of his young friends to attend a short course in beekeeping so frequently sponsored in the different states and provinces. This could lead to the formation of 4-H Clubs under the guidance of experienced beekeepers, with the help of provincial or state apiarists.

From Thomas Doonan  
Des Moines, Iowa

Whenever you expect a bumper crop of anything, the seed has to be planted in fertile soil and then cultivated carefully. Science classes in the schools are very eager for information on bees, in the way of displays, lectures, or movies. During the production season, the keeper of bees is a mighty busy man. So, to reach a maximum number of people with a minimum of effort, set up a well ar-

ranged bee display which tells the story you wish—then really publicize it in every medium at your command. This will attract young and old alike, and you give all the schools a chance to see and enjoy your display. It will not only inspire future young beekeepers, but also will give a tremendous boost to the sales of honey.

## Answer to February question.

From W. K. Davis  
Providence, Rhode Island

This is an excellent topic to start the current series. At a recent meeting in Worcester, Mass., at a Farm and Home Show, I was amazed to see so many young people watching the contests and the judging at the 4-H project show. Boys and girls, as proud as peacocks, strutted their entries around the small arena. We too need an award program as an incentive to get youth interested in apicultural activities. I then visited the Fruit Growers and Pomological Society meeting with about 200 in attendance including a large group of Vocational Agricultural students listening intently to the talks.

Finally I entered the room where the bee meeting was to be held. There were about 15 in attendance which later swelled to perhaps 30, no 4-H'ers; no vocational students, and this sort of thing is happening everywhere. The majority were in their 40's or older. Are we bothering our heads about the future of our industry? Perhaps in many areas beekeeping has ceased to be an integral part of farm life. Beekeeping does not have the interest for farmers it did once. Perhaps we should reflect on this and adopt a program that will put bees back on the farm if we want to build for a brighter future.

For April "Undercurrent", suggested by Cecil B. Hoy, Armstrong, B. C.:

### How Can We Substantially Increase Honey Production with Colonies as They Exist Today?



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## Number One

### Foolproof Requeening

Have a reserve of five or more nucs in each yard, each made up of a comb or two of brood with a laying queen in standard hive body. When you encounter a hive without a queen or one with a poor queen, kill the old queen and transfer a nuc onto the bottom board of the queenless hive. Replace excluder and all supers to the top of the nuc. Sprinkle with sugar syrup. This must be done when the bees are flying freely. The next inspection will find the queen laying nicely.—Al Bzenko, Rochester, Michigan.

## Number Two

### Cleaning Excluders

I have a modification for cleaning excluders of that by Frank Wheeler in January. To save all of the precious beeswax possible, I just place the excluders in my solar wax melter. This melts the wax and it runs clear of the excluders. This heat should not damage the excluders in any way. When the excluders are removed the remaining propolis may easily be scraped or brushed off.—D. M. Pitta, Camarillo, Calif.

## Number Three

### New Twist in Wintering

Cover your colonies with transparent plastic. No packing, rain-proof, wind proof, and when you get the sunshine the bees are warm regardless of outside temperature. You should see how my apiary comes through a bad winter. I think this is the best.—Albert Lamping, Pittsburgh, Pa.

## Number Four

### Old Tire for Water

An excellent watering trough is a discarded tire cut in the middle. A

truck tire is best as it holds more water. Bees do not drown in this and it lasts a long time.—Noble S. Gladish, Nashville, Tenn.

## Number Five

### Embedding Foundation

A quick and efficient way to embed wire in brood foundation is to cut two pieces of electric wire three or four feet long. On one end solder a spike nail. Wrap the nail with tape half way down and file off the nail point. On the other end of the wire solder an electric alligator clamp. Then attach a clamp to each post of a car battery, keeping the nails separated. To embed the wire place one nail on the inside wire of the frame and touch the other nail to the other side of the wire lightly as the wire will become very hot quickly. With a little practice you can do a fine job of embedding.—C. A. Von Harten, Evansville, Indiana.

## Number Six

### How to Remove Honey on Cloudy or Cool Days

Take six telescope lids and bore a two inch hole in their centers, right through the metal and the wood. For each of them make acid pads of cheesecloth, leaving a 1½ inch air space from the top. We purchased a Navy surplus gasoline engine operated by 300 amp. power generator. Also a suitable transformer. We then secured a home hand-operated hair drier with a switch for heat and forced air (or just air itself). Place a tin can lid over the hole of a telescope lid and fasten it to the lid with one nail driven into the cover. Leave it just loose enough to pivot the can lid to close the hole. Sprinkle acid on the pads, place them on the hives. Start the generator, connect the drier and insert nozzle into lid top. Bees are warmed along with the increased fumes from the acid. Smoke may be used also if needed. Properly used it works in cold weather or otherwise. I have used it in large bee operations.—Donald Sinn, Tulare, California

## Number Seven

### Painting

Before nailing hives, use a wood preservative or a thin paint oil at the corners. Then apply the first coat of paint thinly and spread on well. When this is dry, apply the final coat of paint. Over this hard surface a coat of aluminum paint may be used when convenient. This may be done in cool weather, real thin so it dries fast. But spread on well or some of the edges will stay messy for months. It is durable and protects against hot temperatures.—James Warmington, Yamhill, Oregon

## Salt peter Fuel

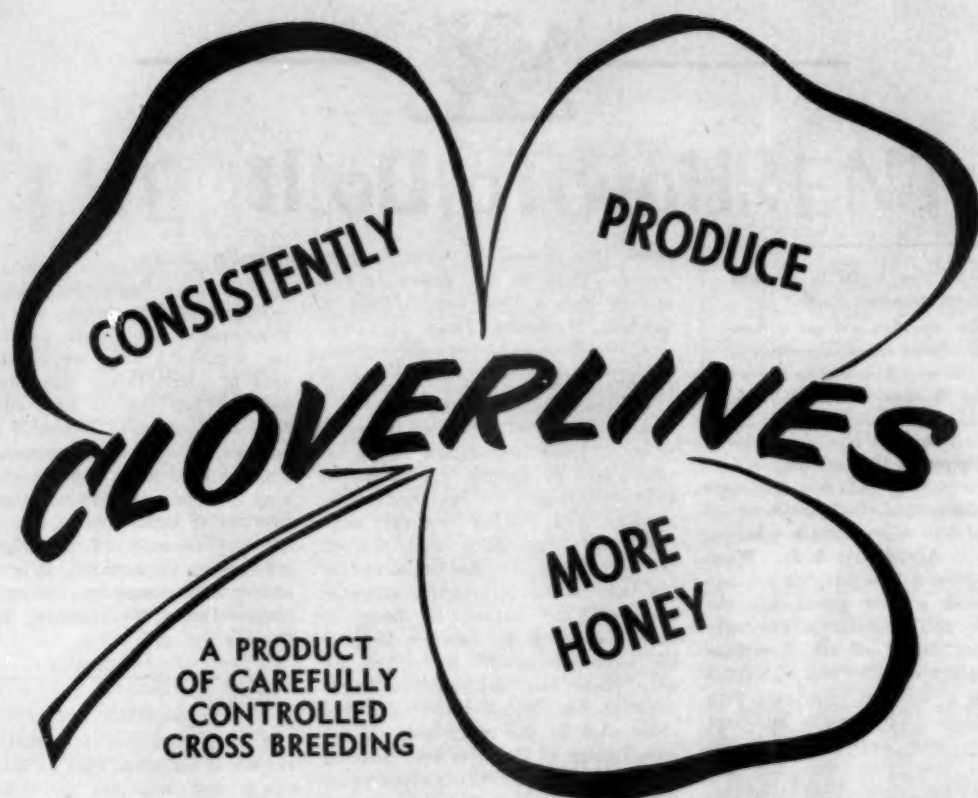
A very good fuel for starting the smoker is salt peter rags as they light easily and will not go out. Dip cotton rags in a solution of a half pound of salt peter to one gallon of water and let dry. To use, tear off a piece of rag, light it and put it in the smoker. Use your regular fuel thereafter. I use hard wood chips.—Magnus Gudmunson, Hallock, Minn.

## Fuel Oil for Robbers

If bees are inclined to rob and cling to cracks and small openings trying to get in, rub on a little fuel oil. This soon discourages them.—Hilbert Sorensen, Franksville, Wis.

## Grafting Tool

A grafting tool can be quickly and easily made from a piece of wire about the size of frame wire and a piece of pencil-sized wood. Make a very small loop on one end of the wire and flatten it thin and bend to a right angle. Force the other end into the end of the wooden stick. Put an angle in the shaft of the wire to give a clear view into the cell and the flat loop or half loop can be rotated or pushed under the larvae. M. E. Triplett, Missouri



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# All Around the Bee Yard

by G. H. CALE

Yes, that's me up there. Perhaps I looked like that when the last All Around the Bee Yard was written. In the interval many have clamoured for a re-appearance. However, some other demand for the space shut poor little me out. It also shut out "Questions" and "Recipes." Finally it was decided that the three of "us" would share this page in alternation. Now it's my turn. Next month belongs to the ladies.

Incidentally that picture was taken by Dr. O. W. Park, of Iowa State College, and he spent an hour or so shooting film, all unknown to me, and at last came up with this "grin." Folks here say it is my most glamorous pose. Usually, before the camera, I turn out looking like a missing link.

There really could not have been a worse time to re-instate this department because here in the Middle West artic air, en masse, has hung over our heads for two weeks. Today it is just above zero and promises to move up to twenty before night. How far away is spring? Robins got mixed in their dates and now they are begging at the door for crumbs. One friend swears he saw a mocking bird last night in zero weather. Must have come along for the ride so he could devil the robins.

It's a good time to try to stick to the idea of wintering bees which declares that colonies with abundant honey and pollen and strong clusters can get through any winter here. Let's see when "spring" comes. Never did have a winter here where packing or a cellar could have done more than save some stores. Friend in western Indiana just writes that his bees have new brood capped over in spite of the cold. It is not unusual;

in fact most winters there is brood in February. Often, by spring, there are more bees than went into winter. The loss is in small colonies, old bees, poorly placed stores or not enough.

Sort of letting things skip through my mind at the moment and the next pressure for release is royal jelly. Some southern boys are transferring all their queen production facilities into the production of royal jelly. They are nicely set up for it because the technique of production is just about the same, except the jelly is removed, the queen larva discarded, and the jelly stored for sale. But, suppose later they find that they have lost their queen business because those who were customers have gone over to someone else? Or is it possible that jelly production is here to stay? Or will it prove to be a boomerang? One large breeder told me that he could not take jelly from a queen cell when there is sale for the queen. He can only keep his nucs going for jelly when the queen market slims down. That's a good deal as it gives him a dual production for those nucs. He's a smart boy.

And what of all the small guys who want to start jelly production? Some turn to it because they have had poor crops lately. Some because they want a fast buck. They can't have much volume as they are not set up big enough. Then they think that it's easy to produce jelly in quantity. Even for as small an outfit as fifty colonies it will take two men most of every day for the work and that costs. The total production might get as high as 30 lbs. of jelly for the season. If you deduct the costs the net is fair but you sure won't have much free time.

There is another phase to it. Now

the demand for jelly is good. Because of that there is a rapid increase in the number who produce it. How big is the market? Where will the price go? Just how stable is the use of jelly? I have many friends who use it regularly. I do myself. You feel fine most of the time. But we can make no medical claims for it—it's so far only a food supplement, like any vitamin product and it's often a sight more expensive.

One of the bee boys just loaded a half ton of sugar and took off for Wisconsin because he is concerned that some of his outfit may need stores. I don't think he will bring any of it back. He is smart. If any colony seems light he will give it a ten pound pail of heavy syrup with only one center nail hole. Then he will spread sugar on too, near the feeder. It is the best feeding possible and it will last at least a month. Then he will repeat the process. Those bees grow like mad. He is also wondering if there will be many dead colonies. One year in that same location the temperature went down to 50 degrees below zero. Yet the loss was less than a dozen colonies and they were not normal colonies. Something wrong with them.

Maybe I'm trying to convince myself that will also be true here with this "arctic" weather we have been having lately. I've got my fingers crossed and in the next "edition" of this hodgepodge I'll tell you just what happened. Meanwhile I'll just be eager for that first day when bees will be in full flight. Will they be weak? Or strong? With replacement brood or not? Just how smart have I been? Or are bees just creatures of nature that look after themselves pretty well, except when we interfere with their ways?



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Fifteenth Annual Convention, Columbus, Ohio, January 27-February 1

Reporters: Robert Banker, Roy Grout, Lee Stewart



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Reappointed President



ROBERT BANKER  
Reappointed Secretary



LAWRENCE R. BUDGE  
Appointed Vice President

As you know the American Beekeeping Federation is composed of all allied interests connected with the beekeeping industry, the honey producers, the package and queen breeders, the packers, the inspection force, the supply manufacturers and dealers. The membership is composed of men and women who are giving their time and money to further the use of honey at better prices. The government support program which stabilized prices is one of their accomplishments. Any one can belong to the Federation and the least you can do is to lend your financial support. We are certain you do not want the other fellow to fight your battles.

Dr. White and 2 of his staff of 5 were at the meeting. Work is well underway on the new study of the physical and chemical properties of U. S. honeies. They now have around 500 samples from all over the U. S. representing some 70 pure types of honeies, and on which they are running about 16 tests. Results already show a decrease in nutritive value on storage. Diastase number is being studied and he stated that the acids of honey were the second most important constituents of honey. The work on honey in pharmaceuticals is underway in which they are testing the reactions of honey to vitamins and hormones. They are trying to get work done on the use of honey in confections, and are negotiating a contract with Arizona for a biochemical assay of honey.

Dr. Kammerer is doing research at Arizona on pollen and pollen substitutes. Using dandelion pollen as a control, they have found that brewers yeast and egg albumen give as good growth factors as dandelion

pollen. Third was sesame seed protein and 4th was soybean protein. They use the development of the pharyngeal gland as their measure of growth or suitability of the pollen substitute. He expressed the opinion that he thought a scent or taste factor added to the pollen substitute would be advantageous in getting bees to use it.

Jim Hambleton told of results of their pollination work with carrot seed, cotton and alfalfa. With cotton, they are running into the same opposition from agronomists as they formerly did with alfalfa. Carrot seed work is successful and the seed producing people are awakening to the importance of bee pollination.

Dr. Heinton, who is in charge of the Ag. Engineering research now being done at Arizona by Owens and at Madison by Detroy, told of their projects which generally are aimed at cutting the cost of production. Their ideas include a better method of getting bees out of supers e.g. sound or vibrations; use of yellow lamps when working bees or handling them at night; hive tippers; size and construction of beehives; equipment for moving bees into fields without running over the crop e.g. a motorized 2-wheel truck; hive ventilation; uncapping combs in supers; and trying to find a cell size and shape for supers so the queen will not lay eggs in them.

A trend that has amazed me and which I have just learned of in the past year is the switch from 60 pound cans to 53 gallon drums for bulk honey. Many of the big producers are using the drums though the foreign market still demands the 60 pound can.

However they would not be prac-

tical for the small producer. A survey of small producers showed that most still use 60-pound cans and only 2 used drums, but the trend definitely is to drums which can be handled more economically. Some producers save as much as 1 cent per pound of honey when using drums and located so they can have them returned at low cost. All agreed that the 60-pound can is inferior.

During the meeting, the work being done on royal jelly at Guelph by Morris Smith under the direction of Dr. Townsend, was presented. They started with the assumption that 3-day old royal jelly was satisfactory and that storage at lower temperatures was the way to preserve it. Contrary to Weaver's work, they were able to raise queens from royal jelly that had been frozen for 13 months, and also from dehydrated and powdered royal jelly of the same age after reconstituting it with distilled water. Royal jelly stored at room temperature was not as good. The normal range of the moisture content is between 65 and 70% and is remarkably constant. It has an unusual ability to resist yeast and bacterial action, but an oxidation takes place which breaks down certain constituents in a week when stored at room temperature. This is speeded up when stored at 90°F.

Mr. O'Keefe of the Food and Drug Administration stated that they had no reason for thinking that royal jelly was harmful to people, but there also was no real justification as yet for promoting it for medical purposes; that as far as using it for cosmetic and food uses it was o.k. because here the responsibility for it being harmful rests with the government. He thought it useless to attempt to establish specifications for royal jelly at this stage of our knowledge of it. Townsend concurred in this. Before standards can be established it will be necessary to furnish analysis, methods of analysis, and ways to assure a continuation of quality and production.

New officers of the Ladies Auxiliary are Mrs. Thelma Littlefield, president; Mrs. Helen Partello, vice-president; and Mrs. Edna Huston, Secretary-Treasurer.

(Continued in April)



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## MEETINGS



## HERE and THERE

### Wisconsin Southern District March 22, Janesville

Wisconsin Southern District, will meet Saturday, March 22, at 10 a.m., in the New Rock County Courthouse. Program: 10 a.m.—Discussion on wintering, Art Kehl, leading. 10:30—Report on inspection, John Long. 10:40—Spring management, Henry Piechowski. 11:10—Power equipment in mechanical extracting, Dr. Moeller. 11:40—Business meeting. 12—Potluck lunch in home demonstration room. 1:10—State Association affairs, Henry Piechowski. 1:30—This business of beekeeping, Cliff Hendricks. 2:00—Observations, Art Kehl. 2:30—Hugh Alberts, Rock County Agricultural Agent. 2:50—Introduction of guests; discussions.

Donald Williams, Pres.

Mrs. Norman Harper, Sec.

### Ohio Farm and Home Week, Columbus, March 26

The Beekeeping Program during Ohio Farm and Home Week will be on March 26th, B & Z Building, Room 100, Ohio State University, Columbus. Program: 9 a.m.—Introductory remarks, Harry J. Vandenberg—Echoes from the Federation Meeting, H. R. Swisher et al. 10—Beekeeping as observed by the inspector, S. E. Bailey et al. 11—Discussion: How beekeeping can stimulate and maintain interest with the youth, John Buchanan, M. J. Deyell et al. 1 p.m.—Trials and tribulations of the amateur beekeeper, A. R. Dean. 2—Management of hybrid queens, W. E. Dunham, E. W. Long et al. 3—Questions and answers by the experts. Leader: Chas. A. Reese.

Chas. A. Reese

Extension Apiarist

### Westchester County (New York), New Rochelle, March 16

The Westchester County Association will hold its next meeting at Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y., Sunday, March 16th at 2:30 p.m.

At this time our expert beekeepers will give a demonstration on assembling a hive and also how to install

package bees. We hope to acquire our sound projector for this meeting. Visitors and guests are cordially invited, as we would like to increase our membership. Delicious refreshments will be served at the close of the meeting.

Mrs. Alfred Roth, Pub.

Middlesex County (Mass.),  
March 29, Waltham Field Station  
The next meeting of the MIDDLESEX COUNTY ASSOCIATION (Mass.) will be held on Saturday, March 29, at the Waltham Field Station. A potluck supper will be held at 6:30 p.m. followed by a business meeting.

At our February meeting, our speaker was Mr. E. L. Burbank Jr. who gave an interesting talk and demonstration on "Fire Prevention in the Home."

L. C. Proctor, Corres. Sec.

South Arkansas, Northeast Arkansas, and  
Arkansas Honey Producers and Packers  
Association, State College,  
Jonesboro, April 12

The South Arkansas Association, the Northeast Arkansas Association, and the Arkansas Honey Producers and Packers Association will join in a combined "FIELD DEMONSTRATION and FELLOWSHIP DAY" at the picnic park of the Arkansas State College at Jonesboro, APRIL 12th, 1958.

It is planned the program of the day will be taken up with several types of demonstrations such as preparing queen cells for grafts, having the bees draw the cells during the day, and gathering Royal Jelly; transferring from "gum" to standard equipment; exhibiting unusual equipment and odd gadgets.

Supply houses are being invited to provide exhibits of their equipment in any manner they desire. Other features will be games and fun and fellowship. But we hope one of the most profitable periods will come out of an hour of group conferences with each group conducted by a captain and bringing in reports on what they desire their associations to under-

take as their projects.

Ray L. McLester

Sec.-Treas.

### Apicultural Society of Rhode Island, April 19th, Westerly

The Apicultural Society of R. I. will hold its regular monthly meeting on April 19 in the Terrace Room, YMCA, Westerly, at 10 A.M. A special speaking program is being arranged, motion pictures and a display of beekeeping equipment. We especially extend a cordial invitation to beekeepers in the Connecticut area who reside adjacent to the R. I. border to attend this meeting. Note of Appreciation: We thank the Sioux Bee Association, R. B. Willson Company, A. G. Woodman Company, American Bee Journal and Gleanings in Bee Culture for the support given the Society in honey promotional activities and distribution of beekeeping training materials distributed during the R. I. Farm and Home Show. 100 Old Favorite Recipe Books were awarded on a drawing basis, samples of honey and honey spread were distributed to housewives during the show. A special Honey Cookery Awards Program was held with participation by beekeepers' families and the Northern, Southern and Eastern R. I. 4-H Groups. We also thank Kenneth L. Coombs, State 4-H Leader, Miss Jean Purington, 4-H Agent, Southern R. I., Mrs. Margaret Potter, 4-H Agent, Northern R. I. and Mrs. Laura Taylor, 4-H Agent, Eastern R. I. and the Home Demonstration Agents who served as judges for the contest, and the Bakery Industry in R. I. for their support of the award money for the contest.

Wulf Kroekel, Corres. Sec.

### Midwestern, Kansas City, March 9

The Midwestern Association will meet at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri, on March 9, at 2:30 p.m. Mr. Roger B. Boren, Assistant State Apiarist, Kansas, is scheduled to speak on "Bee Diseases." Everybody Welcome.

Carroll L. Barrett  
Secretary

## Second South Texas Free Bee School

Saturday, March 29, San Antonio  
The success of the first beekeeping school last June has prompted the *South Texas Beekeeping Fiobbyists* and the A. I. Root Co. of Texas to co-sponsor another free beekeeping school with a special program designed for beginner beekeepers.

The beekeeping school will be held from 1:30 to 5 p.m., Saturday, March 29th with the A. I. Root Co. of Texas, 537 S. Flores Street, San Antonio, Texas. Talks and demonstrations will cover the following subjects:

1. Installation of package bees
2. Examination and handling of an established colony
3. What a beginner should know about South Texas honey plants
4. Spring management
5. Summer management
  - a) swarming and its removal
  - b) supering and removing the crop
  - c) extracting and packing
6. Fall management

Come and bring your friends. In case of rain the school will be postponed until the following week, April 5th at the same time.

**Honey for Breakfast Week, April 6-12**  
**HONEY FOR BREAKFAST WEEK** begins Easter Sunday Morning, April 6-12. The following material is now available at the American Honey Institute, 114 North Carroll Street, Madison 3, Wisconsin, for you Honey Folks to distribute. Check it and order now.

### LEAFLETS:

Honey for Breakfast—\$1.25 per 100  
Honey To Start The Day Right—\$1.25 per 100

Honey and Cereals—\$1.25 per 100

Two Sweet Gifts—\$1.25 per 100

Honey Pocket Calendars, 1958—\$1.00 per 100

### POSTERS:

Enjoy Honey On Cereal—\$1.00 per 12

Honey On Grapefruit—\$1.00 per 12

Honey For Breakfast Starts The Day Right—\$1.00 per 12

### STREAMERS:

... Gee, It's Honey For Breakfast—\$1.00 per 100

It's A Taste Thrill On Grapefruit—\$1.00 per 100

American Honey Institute  
Madison, Wisconsin

### AN INVITATION 1928 - 1958

You are cordially invited to join with all the friends and members of the American Honey Institute in the year-long celebration of its thirtieth birthday anniversary on March 28.

When your birthday gift of one

dollar sent to the American Honey Institute, 114 North Carroll Street Madison 3, Wisconsin is received, you will be sent a brand new Birthday Cake Recipe accompanied by an attractive picture of the cake. By this contribution you will show yourself to be vitally interested in honey promotion.

You will be proud to feel the strength of your organization when you find your name listed in the 30-year Birthday Booklet, along with the names of all your co-workers in the United States and Canada who have contributed to this anniversary gift fund for A.H.I.

These Birthday Booklets will be distributed at the next national meeting of the American Honey Institute. Send in your one-dollar birthday gift now and be among those who count—who count on honey, who count on honey sales, and who count on the American Honey Institute.

### Central Jersey, New Brunswick, April 11

The Central Jersey Association will hold its April meeting at the Entomology Building, Jones and Nichols Ave., New Brunswick, across the street from Spinning Wheel Diner at 7:30 p.m., Friday. A prominent speaker and beekeeping authority, Rudolph Patzig, will talk on "Spring Management" and "Honey Plants of New Jersey." He will illustrate his talk with a slide projector. Jack Matthenius, State Inspector, will also talk on "The Pitfalls of Beekeeping and How to Avoid Them." As an extra special treat a sound movie in color will be shown.

### Southeast Minnesota, Zumbrota, April 5

The spring meeting of the SE Minn. Association will be held in Zumbrota, Saturday evening April 5.

State Apiarist C. D. Floyd, and Dr. Thomas Gochner will speak on the latest developments in disease control, honey grading under the new Minnesota grading law and other instructive topics. Each member is asked to bring a sample of his honey for a grading demonstration.

**Honey Wanted**—Cars and less than car. Top Prices.  
C. W. Aeppler Co., Oconomowoc, Wis.

### Package Bees & Queens

Make this year's crop with Dadant's Starline Queens. This strain has a scientific background, bred for production, and vigor with gentleness.

**LOTT BEE COMPANY**  
Rt. 2, Box 89, Baton Rouge, La.



Pat. Off.  
Reg. U. S.  
Rt. 2, Box 89, Baton Rouge, La.

## Choice Italian BEES AND QUEENS

— 1958 PRICES —

	1-24	24-49	50 & over
2 lb. w/Q.	\$4.15	\$3.95	\$3.75
3 lb. w/Q.	5.05	4.85	4.75
3 lb. w/2 Q.	6.05	5.85	5.75
Queens	1.50	1.40	1.25

Packages are priced F.O.B. Live Oak  
Queens Prepaid Airmail

Shipping starts April 1

No deposit required for booking.  
Payment to be made before shipping  
or when bees are delivered to customer's truck.

## EUGENE WALKER

Route 2 Box 892

Live Oak California

## QUEENS

Italians — Caucasians

	1-24	25-99	100 up
2 lb. pkg. w/q	\$4.30	\$4.25	\$4.00
3 lb. pkg. w/q	5.40	5.30	5.00

Nice, large

Queens 1.25 1.15 1.05

Again, this season we have enlarged our queen yard to fill your orders promptly. So send us your order for 1 or 1000. Also producer of Royal Jelly.

Galvanized metal feeders, fits like a frame in the hive, \$1.60 each. A lifetime feeder without leaks.

### MITCHELL'S APIARIES

BUNKIE LOUISIANA

## PACKAGE BEES ITALIAN QUEENS

Good Producers — Gentle  
You Will Like Them.

**A. R. BANTA**

Los Molinos Calif.

QUEENS                      PACKAGES                      QUEENS		
Two extra good races of bees - real good honey gatherers and very gentle. We start shipping Queens Feb. 15. Packages will begin March 10th.		
	1 to 25	25 to 100      100 up
2 lb. packages	\$4.50	\$4.25      \$4.00
3 lb. packages	5.70	5.45      5.20
Queens	1.45	1.35      1.25

For extra pounds of bees add \$1.10 per pound  
 For Tested Queens \$2.50 each any number  
 Starline Bees and Queens — Best of honey production — use Starlines  
 Add 30c to each queen or package if you want hybrids  
*Health Certificate with every order shipped*  
**ALAMANCE BEE COMPANY**  
 Geo. E. Curtis & Sons                      La Belle, Fla.

### DARK ITALIAN QUEENS

We still have plenty of open dates for May delivery  
 NO MORE PACKAGE ORDERS. THANKS.  
**Weaver Apiaries                      Navasota, Texas**

— Write Us Today —

Get your copy  
 of our New 1958  
 Bee Hive Catalogue.

OUR SERVICE, QUALITY AND PRICES  
 ARE RIGHT.

**Leahy Manufacturing Co.**  
**Box AB**  
**Higginsville, Mo.**

### FLOWERS' QUALITY ITALIANS

OUR BEES STAND TEST FOR HONEY GATHERERS, GENTLE, PROLIFIC. Bred from hives making 300-lbs. or over honey. FUMIDIL-FED grafting and queen yards. HEALTH CERTIFICATES with each shipment. We are prepared to fill all orders promptly. COME AFTER YOUR BEES or shipped express or P.P. PROMPT LIVE DELIVERY GUARANTEED. \$1.00 deposit per package. Balance two weeks prior to shipping dates. ORDER NOW FOR CHOICE SHIPPING DATES. PRODUCERS OF ROYAL JELLY ALSO.

All packages with select young laying queens F.O.B. Jesup  
 2-lb. package w/q. \$3.75      3-lb. package w/q. \$4.75  
 4-lb. package w/q. \$5.75      5-lb. package w/q. \$6.75

For queenless packages deduct price of queens.  
 Select Queens—\$1.00      Tested Queens—\$2.00      1 or 1000 all airmail  
 Write us on large orders. We can help you.  
**FLOWERS BEE CO.      Ph. Juno 4-2830 or 4-2837      Jesup, Ga., U.S.A.**



Dadant Starline  
 Hybrid Queens  
 1 - 24 ..... \$1.70  
 25 - 99 ..... 1.00  
 100 - up ..... 1.50

Bordelon's Light  
 Italian Queens  
 1 - 24 ..... \$1.25  
 25 - 99 ..... 1.15  
 100 - up ..... 1.05



**E. J. BORDELON APIARIES**

Box 33

MOREAUVILLE, LA.

Phone 2583

### Italian Bees and Queens

	1 - 24	25 and over
2 lbs. with queen	\$4.00	\$3.80
3 lbs. with queen	4.75	4.50
Queens	1.25	1.30

### PIEDMONT APIARIES

Rt. 8      Box 182-A  
 CONCORD      NORTH CAROLINA

### QUALITY ITALIAN

### Packages and Queens for 1958

2 lb. with young queen	\$3.25
3 lb. with young queen	4.00
Extra Queens (Air Mail)	.90

### WILKES APIARIES

Phone 2582  
 Box 206      Hamburg, Louisiana

Extreme muscular weakness  
 may be

## MYASTHENIA GRAVIS



Early diagnosis and treatment  
 is essential. Consult your  
 physician!

For general information write to:  
**Myasthenia Gravis Foundation, Inc.**  
 2 East 103rd St., New York 29, N.Y.

To support research into cause  
 and cure of this disease, your  
 contributions are needed. Give  
 today—to save a life.

### Selected Italian Package Bees and Queens

WRITE FOR PRICES

### GENE W. STILES

501 W. 8th St.      Davis, Calif.

### Quality Bred Italian Bees and Queens

	2 lb.	3 lb.	4 lb.	5 lb.
w/q.	w/q.	w/q.	w/q.	Queens
1 - 49	\$4.00	\$5.00	\$6.00	\$7.00
50 - up	3.75	4.75	5.75	6.75

All Queens postpaid, airmail  
 Health certificate & live arrival guaranteed.  
**Holder Homan      Shannon, Miss.**

# The Scramble — — A Contest



FEBRUARY—John Holzberlein, Meeker, Colo.

Well, John has admirers too. There were twenty three answers from nineteen states and one province. All but one said: "John Holzberlein." For fun titles, listen to these: "Traveling John"; "Jack of All Trades"; "Woodburler" ("Holzberlein" meaning "Wood worker"); "Beekeeper's Guide"; "Mister Success"; "World Wide News Hound"; "Connoisseur of Fine Queens"; "Bee Expert"; "Meeker's Worker Bee"; "Mister Know How"; "Einstein of Queen Bee Selection"; "Conscientious Watchdog"; "Bee's Friend"; "Beekeepers' Dutch Uncle"; "Queen Quizzer"; "Kaiser of the Bees". Now, John, try to digest this! Winners will be given in April.

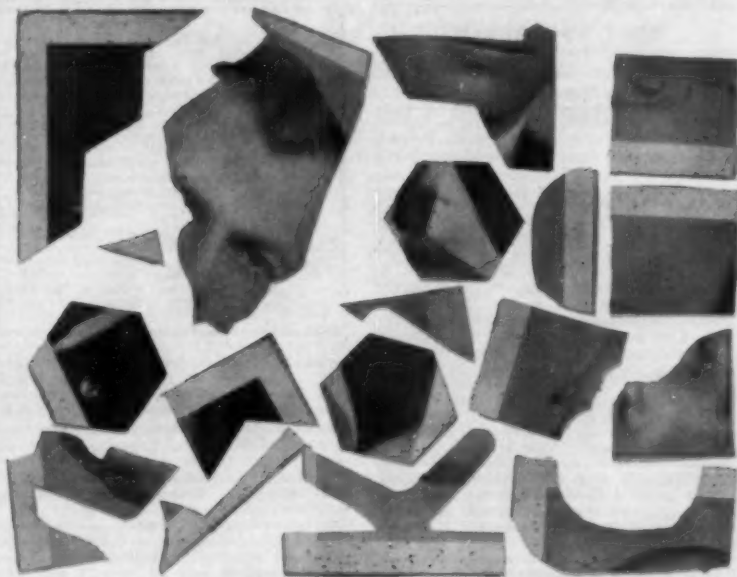
## JANUARY WINNERS FOR SCRAMBLE OF DR. JOHN ECKERT

**Number One**  
J. G. Pister, Jr., Wapato, Washington—  
1. Dr. J. E. Eckert. 2. Entomologist and Apiculturist. 3. University of California. 4. Davis, California. 5. Known for his research in bee culture and disease control. 6. Title: "The California King Bee."

**Number Two**  
Roland E. Stephens, Rock Island, Washington—Who: Dr. J. E. Eckert. Where: Davis, California. Occupation: Educator (Best teacher I ever had). Known for: Many things; at present his chemical therapy for bees would be important. Title: Chief Fire Fighter (or Chemotherapist).

**Number Three**  
Keith E. Hudson, Fairbury, Nebraska—Person: Dr. John E. Eckert. Lives at Davis, California; Position: University of California, Div. of Entomology and Parasitology. Best known for studies in Chemotherapy; relation of biologists to the honey bee and the treatment of vegetation with which bees associate themselves. Title: California's Versatile Name in the Bee Hall of Fame.

**Number Four**  
Rev. Carl J. Webb, Glastonbury, Connecticut—This is Dr. J. E. Eckert, University of California. Co-author with Dr. Harry Laidlaw of "Queen Rearing." Author of many articles, mostly about the chemotherapy of bee diseases, yet has in-



## Scramble For This Month

Again in the Holzberlein Scramble, nearly everyone pieced together the parts. It apparently is easy. So go ahead. Now, who is the above well known member of our industry? Send your answers anytime in March. As before they will be judged and the winners will be given in May. That is working fine. It gives contestants plenty of time to answer but not enough time for announcement in the succeeding issue. As before, for the best answer a three year subscription and your choice of a book; second, a two year subscription; third, a one year subscription; four runners-up, four months each. Now, who is this person, where does he live, what does he do? What fun title do you give him? Play again or play new. Good going. Winners in May.

terests as wide as the interests of the industry; known around the world for his contributions to our knowledge of the nature and economy of the honey bee. Title: Profound Scientist and Prolific Writer.

## Number Five

A. D. Wood, Lakeview, Oregon—This is Dr. J. E. Eckert, University of Cal., Professor of Entomology. Interests: disease and spray problems. Title: Old Doc Eckert, Friend to the Ailing Bee.

## Number Six

Robert H. Rusher, Hyannis, Mass.—This is Dr. Eckert, Apiculturist, University of California. Noted for his work in fighting bee diseases, particularly A.F.B., through chemotherapy. He has done extensive work to prove that, properly done, chemotherapy will work. Title: Chemotherapy Missionary.

## Number Seven

Walter R. Platt, Ithaca, N.Y.—Person: J. E. Eckert. Lives at Davis, Cal. Best known for work in Chemotherapy of

Foulbrood. Title: Better Beekeeper through Chemistry.

## Number Eight

Paul W. Johnson, Peru, Indiana—Person: Dr. J. E. Eckert. Lives in Davis, California. Professor in College of Agriculture, University of California. Best known for articles on beekeeping. Title: Mister Hi-Fi of Beekeeping.

To all contestants, thanks a million. And everyone, try again.

## LIGHT ITALIANS

None better at any price.

Our quality, service and customer satisfaction unsurpassed.

1-9 10-49 50-up

2 lb. pkg. w/q.	\$4.25	\$4.00	\$3.75
3 lb. pkg. w/q.	3.35	3.05	2.75
Young, laying queens			\$1.25
Tested queens			\$2.00

## SUNRISE APIARIES

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Petal, Miss.

## Three Banded Italian Bees and Queens

LUCEDALE APIARIES

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## ITALIANS

Queens \$1.25 ea. — Bees \$1.00 per lb.  
Cages 50c — Royal jelly by contract  
NASSAU BEE CO. Hilliard, Florida

# -The Market Place-

## BEES AND QUEENS

**ITALIANS**—Packages, Queens. Martz, Rt. A2, Box 846, Vacaville, California.

**BRIGHT ITALIANS:** 3 lbs. with Queen, \$4.75, 2 lbs. with Queen, \$4.00, Queens, \$1.25, Sheppard Apiaries, Aberdeen, North Carolina.

**3-BAND ITALIAN and Carniolan bees**—3 lbs. with queen, \$4.90; 5-lbs., \$6.90. Queens \$1.25. Luther Pickett, Efland, N. C.

**THE GOLDEN APIARIES Italian bees.** 3-lbs. with untested queen, \$4.20 each; 4-lbs. with untested queen, \$5.00 each. Queenless packages, deduct 80c per package. Live delivery and a health certificate with shipment. Maurice Roy, Hesser, Louisiana.

**SEND OR BRING cages.** Will supply bees for seventy cents pound. Can supply queens or new cages. Write for information. A. V. Dowling, Valdosta, Ga.

**CARNIOLANS and CAUCASIAN QUEENS** \$1.00 each. I have doubled my output to fill the demand this time. A few packages of bees. Roy Waddell, Route No. 3, Woodruff, South Carolina.

**CARNIOLAN & CAUCASIAN, 2 lb. package** \$4.00 each, 3 lb. package \$5.00 each, untested queens, \$1.00 each. Italian bees with Carniolan or Caucasian queens, 3 lb. package \$4.50 each. Tillery Brothers, Greenville, Alabama.

**HIGNITE'S ITALIAN QUEENS, 10 years** selection behind each queen, \$1.25 each, 10 or more \$1.10 each. Hignite's Bee Farms, 230 S. Lynchburg Rd., Baytown, Texas.

**QUEENS: MARCH and April.** A. L. Walker, R. 2, Box 338, Vacaville, California.

**QUALITY BRED ITALIAN BEES and QUEENS,** March queens, \$1.45 each, April and May, \$1.00 each, 2 lb. package with queen \$4.15 f.o.b., 3 lb. package with queen \$4.90 f.o.b. Walter D. Leverette Apiaries, P.O. Box 364, Ft. Pierce, Fla.

**DARK ITALIAN QUEENS—600-lb. strain,** bred for production, \$1.00. With 2 lbs. of bees, \$3.75, with 3-lbs. of bees, \$4.75. Henry Loehr, Caldwell, Texas.

**GOLDEN ITALIAN QUEENS:** Bees very large and gentle and heavy honey producers. Price \$1.00 each. Guaranteed live arrival and health certificate. Allen H. Gauthier, Hamburg, La.

**ITALIAN PACKAGE BEES and queens, 2 lb.** \$4.35, 3 lb. \$5.35. Shipping date approximately April 20. Quantity discount. Herman Larsen, Rt. 1, Junction City, Oregon.

## FOR SALE

**FOR SALE—350 colonies, 2 stories, 10 with** excluders, D. M. and Superior quality hives 1 and 2 years old. Now located in almonds. H. G. Dunn, Box 3327, Dublin Blvd., Hayward, Calif.

**100 or more hives bees with honey, one** or two story. Good locations in Texas. Clyde Cobb, Belleville, Ark.

**ROYAL JELLY CAPSULES: HIGH POTENCY, FIFTY MGM. STRENGTH.** Hermetically sealed capsule. Vial of THIRTY (30) capsules \$6.50 retail. Your cost \$35.10 per dozen. One free with

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

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dozen brings cost down to \$2.70 net per unit. Container of 1,000 capsules—\$87.50. Bulk prices to quantity buyers. Fabulous profit opportunity! **WHOLESALE ONLY!** Garden State Laboratories, 1001 Hollywood Road, Linden, N. J.

**FOR SALE—American Bee Journals 1937—1955 inclusive.** Lavern Depew, Auburn, N. Y.

**FOR SALE: 160 colonies Italian bees—10** frames, standard equipment, 3 supers, clean. Location will go with it and lots of other bee supplies. Reasons for selling, 48 years in bees and old age. Fred Lenk, R.F.D., Box 3, Clarksburg, California.

**50 STANDS OF 3 banded Italian bees with** one super each, 11, 10-frame hives, remaining are 8-frame. Loran A. Bane, Otterville, Mo.

**FOR SALE: Honey pump and motor, gal-**vanized tanks, 5 ton, 2 ton, 1 ton, pipes and valves, exhaust fan, flat wall radiators, complete steam room, equipment for 150 cans per day and miscellaneous honey equipment. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

**70 slightly used 4x5 comb honey supers, can** be used shallow extracting. A. L. Stewart, Marengo, Illinois.

**FOR SALE: About April 1st 100 to 200 3-**frame strong nucs with overwintered queens. Two to the hive, good bees, mostly Caucasian. \$1.00 per frame. Howard E. Crom, Rt. 1, Box 134-A, Escalon, California.

**FOR SALE: Back copies American Bee** Journal and Gleanings. Homer Blackford, Rt. 1, Marion, Iowa.

**BEE-SWAX direct importation from Mexico.** Nicholas Vallos, Blue Hills Station, Hartford, Connecticut.

**QUALITY SURPLUS Foundation.** \$1.20 lb., might deliver 100 lbs. up (\$1.10) in Florida. John Riley, Beaverton, Michigan.

**50 COLONIES BEES 2 story 10-frame young** queens. Good combs. Hubert Martin, Dryridge, Kentucky.

**FOR SALE: Royal Jelly.** Royal Jelly Enterprises, 1017 Los Carneros Avenue, Napa, Calif.

**ROYAL JELLY SOFT GELATIN CAPSULES** 30 mg. **WHOLESALE ONLY.** 1 doz. and up vials of 15 capsules \$1.25 each. 1 doz. and up vials of 30 capsules \$2.00 each. **BULK 1000 CAPSULES \$55.00.** ROYAL JELLY Beauty Cream 1 oz. size, \$12.00 per dozen. O.K. Anderson & Son Apiaries, P.O. Box 193, Coffee Springs, Ala. U.S.A.

## HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

**C. W. AEPPLER COMPANY**  
Oconomowoc, Wisconsin

## HONEY and BEESWAX WANTED

**WANTED—Extra white and light amber** honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted, Mich.

**WRITE FOR SHIPPING TAGS and current** quotations on rendered beeswax. Any amount from one pound up bought. If you have 25 pounds or more, save 25% by letting us work it into foundation for you. Walter T. Kelley Co., Clarkson, Ky.

**WANTED: White, Extracted and Buck-**wheat. Send sample and price. Traphagen, Hunter, N.Y.

**CASH paid for quality clover honey.** Send sample. Schultz Honey Farms, Ripon, Wisconsin.

## HONEY FOR SALE

**PURE TUPELO and wild flower in 60's.** Honey candy. En-R-G Foods, Inc., P. O. Box 232, Lancaster, Pennsylvania.

**LARGE QUANTITY light amber unheated** honey in steel drums with removable heads. York Bee Company, Jesup, Ga.

**MICHIGAN'S FINEST WHITE CLOVER** HONEY. New Sixties. Fully ripened. You'll be pleased. Sample 20c. John McCall, Tecumseh, Michigan.

**WHITE CLOVER HONEY in sixties.** Ralph Gamber, 910 State, Lancaster, Pa.

**CLOVER HONEY, sixties or drums.** NORTH CENTRAL HONEY PRODUCERS LEAGUE, Box 211, Belleville, Wisconsin.

**NEW YORK State light honey in new 60's,** also some light amber. Rulison Honey Farms, Route 2, Amsterdam, New York.

**AM BOOKING orders new crop tupelo gal-**berry extracted and chunk comb. Will pack to your specifications. A. V. Dowling, Valdosta, Ga.

**68,000 pounds white clover honey.** Our finest. In open head drums. Located Artesian, South Dakota. Write or Call, E. P. Barkman, Hillsboro, Kansas.

**WHITE TO WATER White honey in new** sixties. Truck or car load. Platte Valley Apiaries, Lexington, Nebraska.

## SUPPLIES

**WRITE FOR CATALOGUE.** Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

**BRAND MELTERS and all kinds of bee** supplies. Catalogue free. Hodgson Bee Supplies Ltd., 565—13th Ave., New Westminster, B. C.

**THE BIGGEST BEE SUPPLY CATALOGUE**  
PUBLISHED (64 pages) free for the asking. Big factory manufacturing a complete line of wooden goods, comb foundation, metal goods, veils and gloves, carloads in stock, daily shipments, save 20% **WALTER T. KELLEY CO., CLARKSON, KY.**

**MAKERS** of Robinson plain and WAVY-WIRED foundation. Also renner and buy beeswax. Order direct from manufacturer and save dealer costs. Shipping tags free. Wax Workers, Inc., Ithaca, New York.

## WANTED

**WANTED**—To buy bee outfits and bee equipment in any area. We have buyers for outfits, regardless of size. **SIoux HONEY ASSOCIATION, Supply Dept., Sioux City, Iowa.**

**WANTED** to hear from beekeepers in Minnesota in regard to hauling package bees this spring. I make several trips each year. Dependable equipment, plenty experience, fully insured, references on request. Eugene Danker, Roosevelt, Minnesota.

**WANTED**—WOODMAN merry-go-round. Jack Bradford, Fairfield, Montana.

**20 FRAME RADIAL** extractor and single blade horizontal or vertical power uncapper. Robert Rusher, 111 Ocean Street, Hyannis, Massachusetts.

**WANTED:** Traction Steam engine, also portable. Leonard Schultz, Water Street, Mauston, Wisconsin.

**WANTED:** USED 45 or 50 frame extractor also queen excluders. Eugene McClain, 13491 Lacey, Hanford, California.

## SEEDS AND PLANTS

**"HONEY PLANTS**—Ask for illustrated 1958 catalog. One packet seed each 6 unusual honey plants \$1.00, Vitex negundo, one year plants, 4 for \$2.00, dozen \$5.00, Pellett Clover root divisions, 25, \$2.00; 100, \$5.00, postpaid. Pellett Gardens, Atlantic, Iowa.

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Rearing Italian queens and bees of reliable quality is our only business.

	100
1-24	25-99 or more
2-lb. w/q.	\$4.50 \$4.25 \$4.00
3-lb. w/q.	5.70 5.45 5.20
Queens	1.45 1.35 1.25
For queenless packages deduct \$1.00	
Tested Queens . . . \$2.50	

## W. E. PLANT

Rt. No. 2 Hattiesburg, Miss.

## POSITIONS and HELP WANTED

**WANTED:** Experienced queen breeders and beekeepers. Give full information in first letter. York Bee Company, Jesup, Ga.

**WANTED:** Two men for 1958 package season. Write for full information, giving experience, references, age and height. Howard Weaver, Navasota, Texas.

**WANTED:** Two or more experienced bee men for coming season. Good wages and opportunity for right man. Give experience, age and reference. Bees located in Arizona, Idaho and North Dakota. Powers Apiaries, Parma, Idaho.

**WANTED**—2 men to work in our apiaries. Top wages, 5 day work week. Other advantages. Schultz Honey Farms, Ripon, Wisconsin.

**WOULD LIKE** to contact a Western State or Canadian beekeeper who might have something to offer a retired Civil Service Employee. C. A. Davis, 504 Sea View Place, Vista, California.

**HELP WANTED**—Seasonal, year around. Experienced or inexperienced. In Texas, North Dakota. Stewart Apiaries, Trenton, Texas.

**Holland-Dutch Beekeeper** with American Experience wants to take over bees and equipment on share basis or honey crop payments. California preferred. Write Frank Vlaming, Route 1, Box 788, Modesto, California.

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**KNOW** interesting facts about the bees of India through the **INDIAN BEE JOURNAL**, published in English by the Bhupen Apiaries (Himalayas), Ramgarh Dist. Nainital, U.P., India, and obtainable from them. Sub. Rs. 9/-, or 5.15/-, or \$2.25 yearly. Sample copy, post free, Rs. 1/-, or 5.2/- or 40c (International money order). Payment in mint postage stamps of your country accepted.

**THE AUSTRALASIAN BEEKEEPER**—The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Fender Bros. Pty. Ltd., Box 20, P.O. Maitland, 3N, N.S.W., Australia. Subscription by Bank Draft or International M.O. 18/- (approx. \$2.15) per year, post free. Sample copy free on request.

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**SENSATIONAL GARDEN TRACTORS.** Hoes between plants and rows, including strawberries. Eliminates hand hoeing. Nothing else like this. Patent 2742840. Also tills. Fantastic offer to first few inquiries. Auto Hoe, DePere 80, Wisconsin.

**ROYAL JELLY.** If you are a producer, or a buyer, we would be glad to hear from you. This Association is for the beekeepers by the beekeepers also a convenience to the buyers. Southeastern Royal Bee Jelly Association, Opp, Alabama, Branch Office, Ruskin, Florida.

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**FOR ROYAL JELLY:** Quality and Quantity. Contact Overbey Apiaries, Bunkie, Louisiana.

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We have some dates open up to April 13th. on packages. Lots of queens available at all times.

Quantity	Queens	PRICES:	2 lb. Pkg. w/q.	3 lb. Pkg. w/q.	4 lb. Pkg. w/q.
1-9	\$1.40	\$4.35	\$5.45	\$6.50	
10-49	1.30	4.10	5.20	6.30	
50 - up	1.20	3.85	4.95	6.00	

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**Honey Bee Microslides - Worker Honey Bee, Set No. 3** whole mount of Worker and a series of eleven slides, showing the structure of each part of the insect.

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PRICES FOR 1958

1 - 25—\$1.70 25 - 99—\$1.60 100 up—\$1.50

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Shipped anywhere in United States and Canada

1958 PRICES — FOB Hampton, South Carolina

	Queens (each)	2 lb. & Queen	3 lb. & Queen	4 lb. & Queen	5 lb. & Queen
1-24 Packages	\$1.40	\$4.25	\$5.25	\$6.25	\$7.25
25-99 Packages	1.30	4.00	5.00	6.00	7.00
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(For Queenless Package deduct Price of Queen)

Queens clipped and painted if desired  
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Guaranteed safe arrival.

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For American foulbrood

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We Ship Pure Worker Bees By Mail, Express  
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Whichever You Like.

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1958 Prices

Each with a young Laying Queen

Lots of	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1 to 11 Each	\$4.25	\$5.35	\$6.45	\$7.55
12 to 20 Each	4.05	5.10	6.15	7.20
30 or More Each	3.85	4.85	5.85	6.80

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Dadant	"Starline"	Hybrid	Queens:	Jensen's "Magnolia State"	Italian Queens:
1-34	1-34	25-99	1-34	1-34	100-up
2 Lb. ....	\$4.80	\$4.55	\$4.50	\$4.55	\$4.00
3 Lb. ....	5.90	5.65	5.40	5.35	5.10
4 Lb. ....	7.00	6.75	6.50	6.45	6.20
QUEENS	\$1.75	\$1.65	\$1.55	\$1.45	\$1.35

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All packages are headed by a good young queen. We guarantee - health  
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Proven for honey production, easy handling, health certificate, live arrival guaranteed and top quality.

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1 - 24	\$1.50	\$4.25	\$5.35	\$6.45	\$7.55
25 - 99	1.40	4.00	5.05	6.10	7.15
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To date the South has had the coldest winter in years. Please book early as there is sure to be a shortage of bees this spring.

	Queens	2 lb. w/q	3 lb. w/q
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25 to 100	1.15	3.75	4.75

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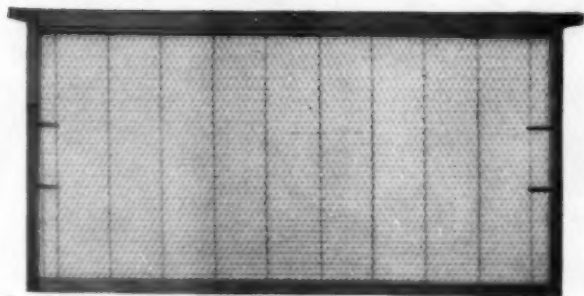
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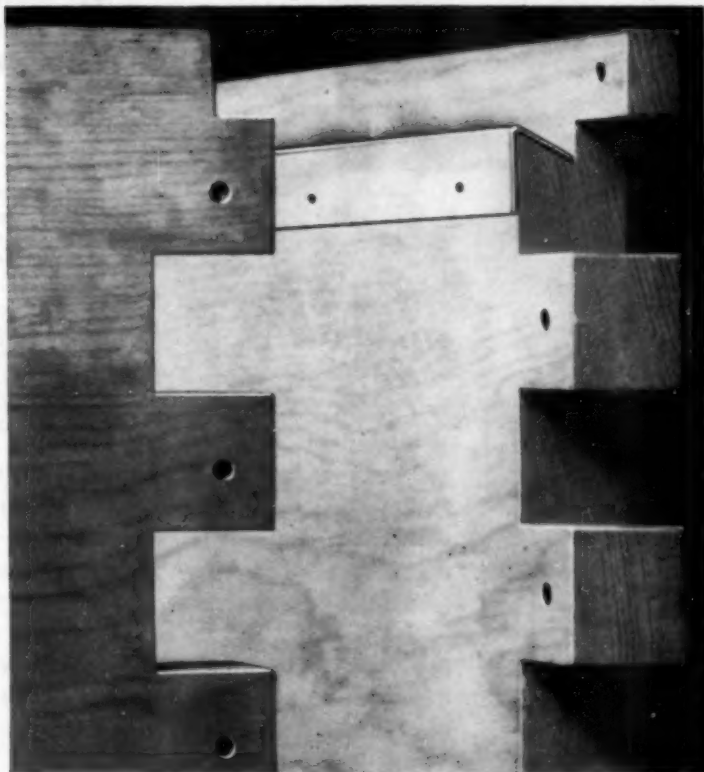
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